BEST TOOLS FOR PALM • HANDSPRING • POCKET PC

BUSINESS 2.0

BUSINESS2.COM

WHERE BUSINESS IS GOING

The Palm Phenom

Do-It-All Handhelds Are Hot.

If Palm Isn't Paranoid, It Should Be.

P.74

Q&A with Handspring's Jeff Hawkins

P.82

PLUS

Business Websites that Waited

4.03 2001

imagine MEDIA WITH PASSION

Are you confident that your current Web-hosting solution can handle your business growth? Don't pay to be squeezed onto a cramped shared Web-hosting server. Team up with Dell™, an E-Commerce leader. With dedicated Web-hosting services starting at only $199 per month, we'll base your network on its own dedicated Dell PowerEdge™ or PowerApp™ server, featuring Intel® Pentium® III processors, which is monitored 24x7. It's scalable and flexible enough to reconfigure as your business needs grow. In other words, perfect.

DELL™ HOSTING SOLUTIONS:

DEDICATED WEB-HOSTING SOLUTION

Introductory Dedicated Hosting Solution

- Dell™ PowerApp.web™ 100 Server Appliance
- Intel® Pentium® III Processor at 600MHz
- 64MB SDRAM; 1X 9GB®, 7.2K SCSI HD
- 2X 10/100 Embedded NICs
- Red Hat® Linux™ 6.2 OS
- Dedicated 21GB Monthly Transfer (Metered)
- NetObjects® Site Design Software – No Added Charge

$199/mo.
PLUS $299 ONE-TIME SETUP FEE

- Add Site Tools and Analysis, Starting at $9.95/mo.

DEDICATED WEB-HOSTING SOLUTION

Enhanced Dedicated Hosting Solution

- Dell™ PowerApp™ 1550 Server
- Intel® Pentium® III Processor at 866MHz with 256K Cache
- 128MB SDRAM; 1X 9GB®, 10K SCSI HD
- 2X 10/100 Embedded NICs
- Red Hat® Linux™ 6.2 OS
- Dedicated 21GB Monthly Transfer (Metered)
- 1-Yr VerticalNet® Storefront to Qualified Customers ($9400 Value)

$299/mo.
PLUS $299 ONE-TIME SETUP FEE

- Add Weekly Back-up for $75/mo. plus $150 Setup Fee
- Add Site Tools and Analysis, Starting at $9.95/mo.

CUSTOM WEB-HOSTING SOLUTION

Solutions Custom-built for Your Business

Solutions Can Include:

- Multi-tier Architectures
- Multi-server Configurations
- Secure Dedicated Firewalls
- Redundant Load-balancing
- Highly Scalable Connectivity
- Dedicated consultants available to custom-design the solution for your business

CALL FOR A FREE CONSULTATION.

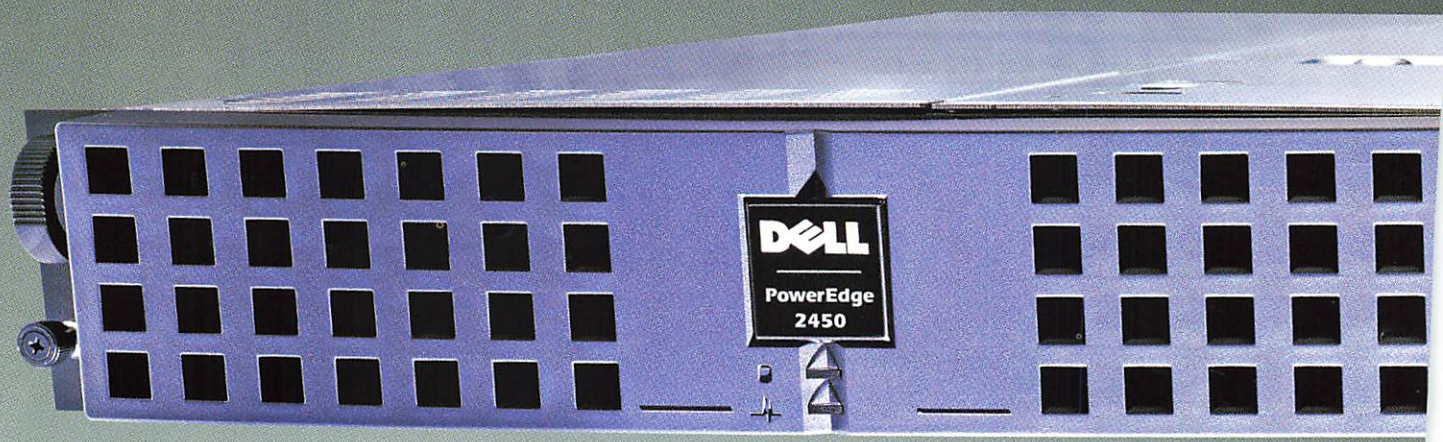
E-COMMERCE SOLUTION

Sell Your Products Online

- 5GB Monthly Data Transfer
- 100MB Site Storage Capacity
- 10 POP3 E-Mail Accounts
- E-Commerce: Miva Merchant – up to 50 Products
- Save 10% Off the Monthly Price with Annual Subscription

$29.95/mo.
PLUS $50 ONE-TIME SETUP FEE

AT THESE PRICES, *WHO'S* THE PER*FECT* *HOST*?



INSIDE

INDEPTH

THE PALM PHENOM

COVER STORY 74

A runaway success already, Palm is about to learn a bunch of new tricks. And the world will soon know whether Palm and its new CEO have what it takes to fend off two formidable rivals (that might decide to join forces).
Written by Kim Girard

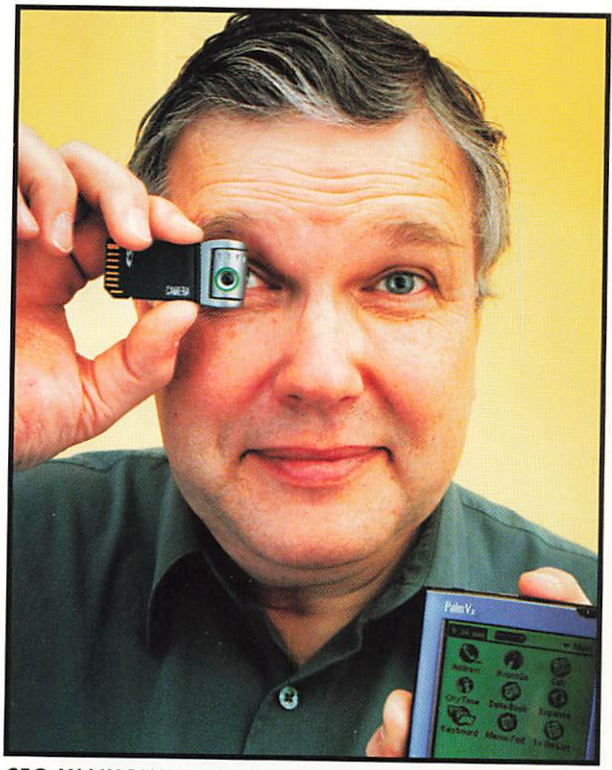
HAWKINS TALKS

PAGE 82

Jeff Hawkins, the PalmPilot's creator and now the force behind Handspring, says the future of personal computing is mobile computing. A T1 in the pocket. For everyone.
Interview by James Lardner and Kim Girard

HANDHELD TOOL KIT

79 MICROSOFT ALTERNATIVES
80 PALM MEANS BUSINESS
81 PALM PERIPHERALS
81 PALM SOFTWARE
86 HANDSPRING MODULES



CEO YANKOWSKI SEES PALM'S FUTURE page 74

NOVATEL
MINSTREL V MODEM

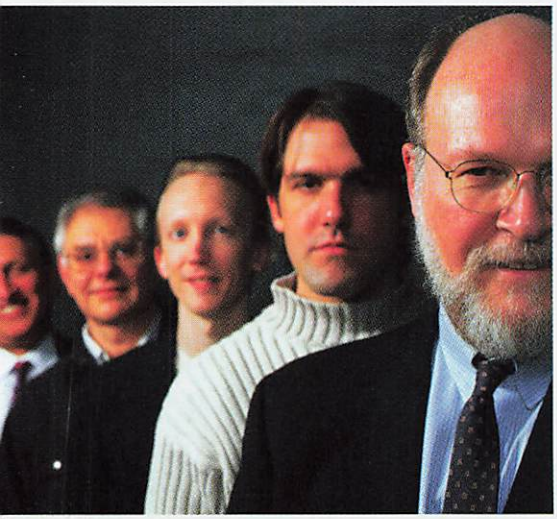
RANDMCNALLY.COM
STREETFINDER GPS
FOR PALM V

HANDSPRING'S HAWKINS page 82

GEODISCOVERY
GEODE GPS MODULE

LANDWARE GOVOX
DIGITAL RECORDER

COVER ILLUSTRATION BY WILLIAM DUKE



BOTTOM-LINE FEEDERS
page 50

WILL BANKS EVER LEARN?
page 88

INFRONT

FILTER

Who guards the door when the pink slips fly? 16

EBUSINESS

PDQuick: Delivery service understands profits. 24

War torn: Selling software in Sarajevo. 29

Online coal: Taking the Net to Newcastle. 34

At your service: Marketplaces revamp to stay alive. 38

Need capital? Headhunters launch venture funds. 42

BREAKTHROUGH

Find me: Location-based services—no easy task. 46

NEC Research: Saying goodbye to paradise? 50

Photo finder: New search engine for images. 54

More voice: VoDSL multiplies phone lines. 56

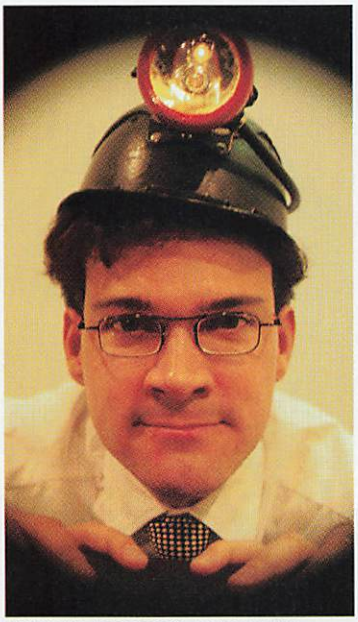
MARKETING

Patience pays: Old-line firms build first, hype later. 60

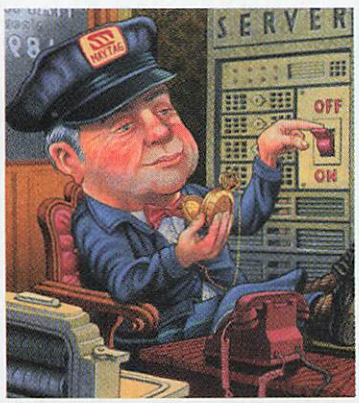
Bite back: Catch customers before they flee. 64

Peer pressure: College kids tell all for trinkets. 68

Sterne: New metrics 72



MINING PROFITS, LITERALLY
page 34



LATE TO THE WEB—BUT, HEY
page 60

INSIGHT

INVESTING

Deposits wanted: E*Trade and others work harder for your money. 88

Dossier: SmartForce is a force in online learning. 90

Luskin: Capital-gains tax must die. 92

NUMBERS

Taxes online: Americans warm to computer filing. 94

Who produces? Net workers beat non-Net by 2-to-1. 96

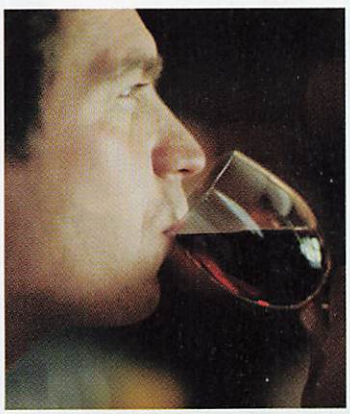
Internet at a Glance: Up a notch, down a notch. 98

GET A LIFE

Wine 101: How to sip it, how to ship it. 102

DEMO

What's web-footed and built for wireless networking?; a tiptoe through the tulips of business history. 106



BE A WINE SNOB
page 102

ALSO INSIDE

Daly Insight	5
Vox	14
Company Index	110
Advertiser Index	110
Escape	112

Tread not so lightly.

Step into the future of the ASP space with confidence. As a single source for optimizing Web-enabled applications—from development to deployment to delivery—Qwest Apptimum can remove the obstacles and confusion and clear the path to a future filled with possibilities.

QWEST APPTIMUM.™ Optimizing Web-enabled applications from development to delivery. Energizing ideas. Showing you the way.

apptimum.qwest.com

ride the light

Qwest.

©2001. Qwest Communications International Inc.
Qwest Apptimum is a trademark of Qwest Communications International.

BANANA REPUBLIC
BANANAREPUBLIC.COM

Y Aren't They Buying?

"Youth is wasted on the young," playwright George Bernard Shaw once observed. Online marketers might feel the same way about their advertising budgets. If you're trying to draw the business of young, Web-savvy consumers, a new study reveals that you may be wasting your time.

While Generation Y may be nuts about the Net, that doesn't mean it wants to spend money there. A recent survey of 3,000 people younger than 24 found that only one in five purchased anything online last year, according to the Zandl Group, a New York–based trends analysis firm that tracks the youth market.

Although many young people research products on the Web, many barriers remain to their making online purchases: lack of access to credit cards, the inability to examine merchandise before purchase, the hassle of returning goods, and the solitary nature of online shopping—which can't compete with hanging out at the mall with friends.

According to the study, young customers surf the Web and then head to a store to buy things. GenY shoppers who make purchases online mostly buy products that do not require personal trial, such as entertainment software, books, and movie and concert tickets. When it comes to apparel and shoes, they gravitate to brand names that are widely distributed in retail stores, where they can try on the merchandise and easily return it.

The entertainment world dominated Zandl's list of the most popular Websites. Although a few online retailers (eBay.com, Amazon.com, and skateboard site ccsmailorder.com) and brick-and-clicks retailers (Gap.com, JCrew.com, and Footlocker.com) made the list, most online marketers found it hard to compete with sites devoted to music, television, professional sports, video games, and that most reliable of consumer products—porn.

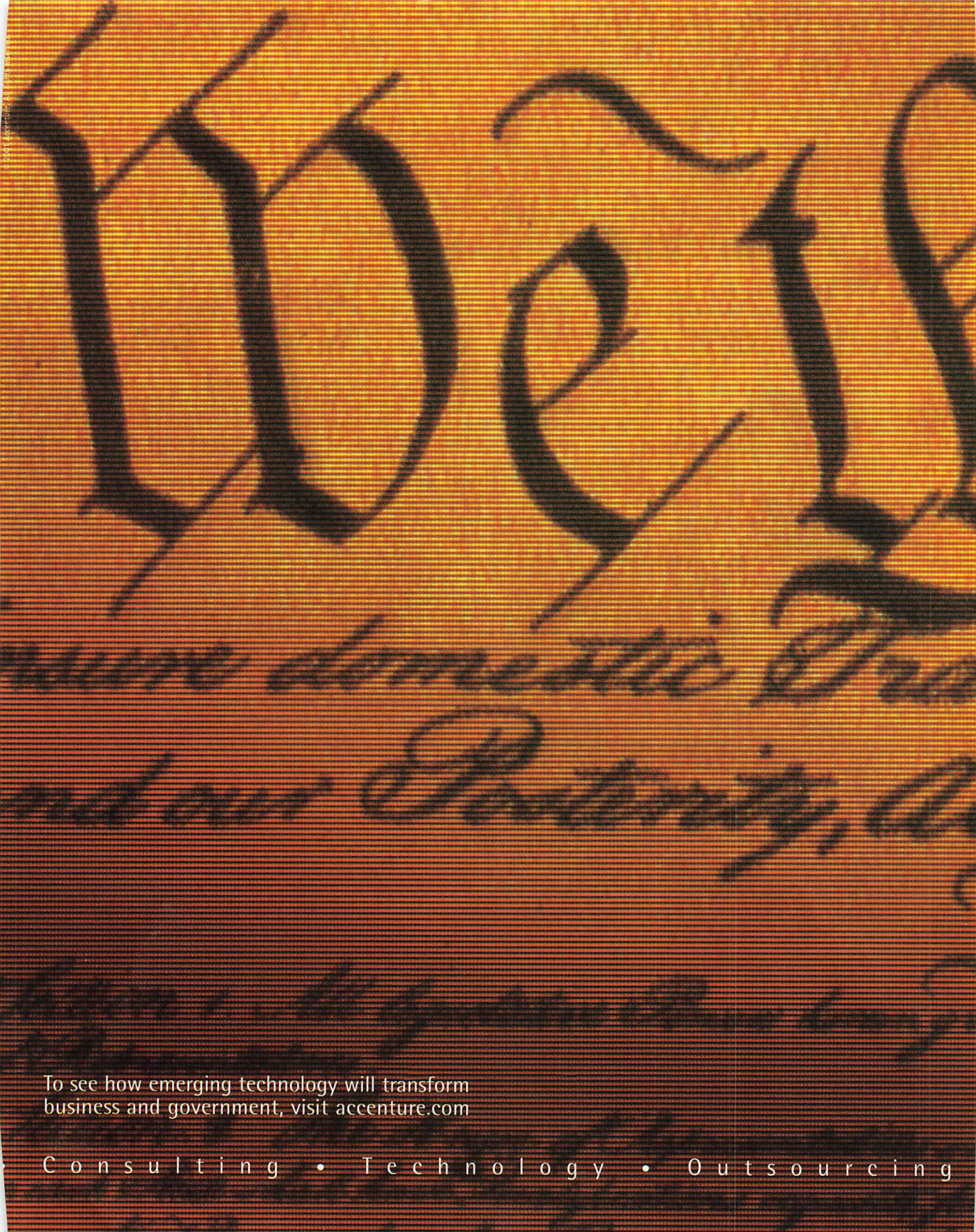
"Most young people go online for entertainment," noted Irma Zandl, president of the research firm. "And they'll leave your site in a second if it isn't entertaining and easy to navigate."

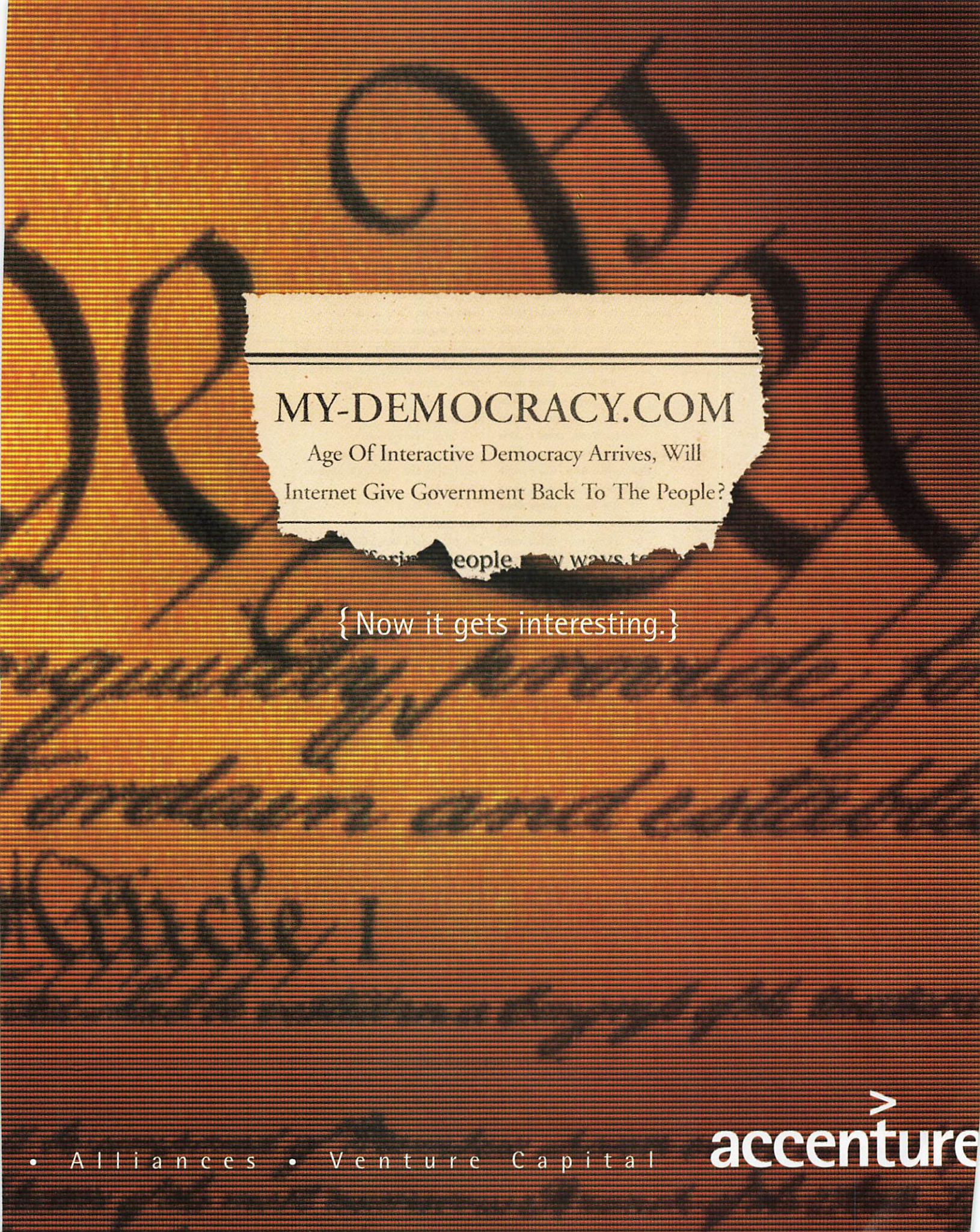
GenY is a marketing category more than anything else. But it's interesting to see how its buying patterns may be different from those of baby boomer and GenX buyers. While GenX seems to be more individualist, GenY may be more social and collective, which explains why group-oriented mobile technologies such as pagers are so popular.

For most online marketers thinking about devoting a big chunk of their ad dollars to the younger set, it spells a clear message: Don't bother.

James Daly, Editor in Chief
forwardslash@business2.com

2000 Folio: Editorial Excellence Awards Best Business/Finance Publication
2000 Computer Press Awards Best Overall General Interest Publication
2000 Maggie Awards Best Business & Finance Publication
2000 National Magazine Awards General Excellence, Finalist


To see how emerging technology will transform
business and government, visit accenture.com
Consulting • Technology • Outsourcing


MY-DEMOCRACY.COM
Age Of Interactive Democracy Arrives, Will
Internet Give Government Back To The People?
{Now it gets interesting.}
• Alliances • Venture Capital
accenture

BUSINESS2.0

BUSINESS2.COM

EDITOR IN CHIEF James Daly

EDITOR Russ Mitchell

EXECUTIVE EDITOR Damon Darlin **CREATIVE DIRECTOR** Laura Morris

Naheed Attari **MANAGING EDITOR**
Jeffrey Davis **SENIOR FEATURES EDITOR**
James Lardner **SENIOR FEATURES EDITOR**
Kevin Hogan **FEATURES EDITOR**
Loren Fox **SENIOR EDITOR**
Eric Hellweg **SENIOR EDITOR**
Bill Snyder **SENIOR EDITOR**
Eric Reyes **SECTION EDITOR**
Tessa Romita **SECTION EDITOR**
Nancy Rutter **EDITOR AT LARGE**
Kara Edwards **ASSISTANT MANAGING EDITOR**
Beth Snyder Bulik **SENIOR WRITER**
Mike Drummond **SENIOR WRITER**
Kim Girard **SENIOR WRITER**
Carolyn Marshall **SENIOR WRITER**
David Orenstein **SENIOR WRITER**
Robert Poe **SENIOR WRITER**
Edward Robinson **SENIOR WRITER**
Kim Cross **STAFF WRITER**
Sean Donahue **STAFF WRITER**
Jennifer Gilbert **STAFF WRITER**
Carol Pickering **STAFF WRITER**
Dominick Calicchio **COPY EDITOR**
Mark Ludwig **COPY EDITOR**
John Tomasic **COPY EDITOR**
Bryan Edward Farmer **REPORTER**
Alex Perez **REPORTER**
Warren Hahn **RESEARCHER**
Kathryn-Terese Haik **RESEARCHER**
Tara Kline **RESEARCHER**
Eric Snow **RESEARCHER**

ART DIRECTOR Mark Rosenthal
ASSOCIATE ART DIRECTOR Christina Empedocles
SENIOR DESIGNER Chris Vanderhoof
GRAPHIC DESIGNER Ariane Oettinger
PHOTOGRAPHY COORDINATOR Diana Walker
PHOTOGRAPHY ASSISTANT Kyle Terboss
EDITORIAL ASSISTANT Tony Rudge

COLUMNISTS
Jon Carroll, Harry Domash, Donald L. Luskin, Walid Mougayar, Evan I. Schwartz, Patricia B. Seybold, Clay Shirky

CONTRIBUTING WRITERS
Stewart Taggart, Mohanbir Sawhney, Joanne R. Helperin, Jane Hodges, Evantheia Schibsted, Joe Ashbrook Nickell, Rick Overton, G. Beato, Glenn McDonald, Colleen O'Connor, Glenn Fleishman, Michael Grebb

ADVISORY BOARD
Yobie Benjamin, Jeffrey Bezos, David Dorman, Gary Hamel, Kevin Jones, Jeffrey Mallett, Halsey Minor, Kim Polese, Robert H. Reid, Mohanbir Sawhney

PR CONTACT
Sidney Falco, 415-468-4684, x2310

INFOGRAPHICS XPLANE, www.xplane.com

ONLINE

Ed Homich **EXECUTIVE DIRECTOR**
Laurianne McLaughlin **SENIOR EDITOR**
Emily Fitzloff **ASSOCIATE EDITOR**
Steven Joachim **RESEARCH EDITOR**
Dean Takehara **COPY EDITOR**

MANAGING EDITOR Kearney Rietmann
STAFF WRITER Susan Thomas
REPORTER Elizabeth Hurt
REPORTER Kevin McLaughlin
REPORTER Jim Welte

Business 2.0
5 Thomas Mellon Circle,
Suite 305
San Francisco, CA
94134, USA
+1.415.656.8699

Business 2.0 UK
Future Publishing
99 Baker St.
London W1U 6FP
UNITED KINGDOM
+44.2073.172600

Business 2.0 France
Future France
101–109 Rue Jean Jaures
92300 Levallois Perret,
FRANCE
+33.1.41.27.38.38

Business 2.0 Germany
Future Verlag
Rosenheimer Strasse 145h
81671 München,
GERMANY
+49.89.450.6840

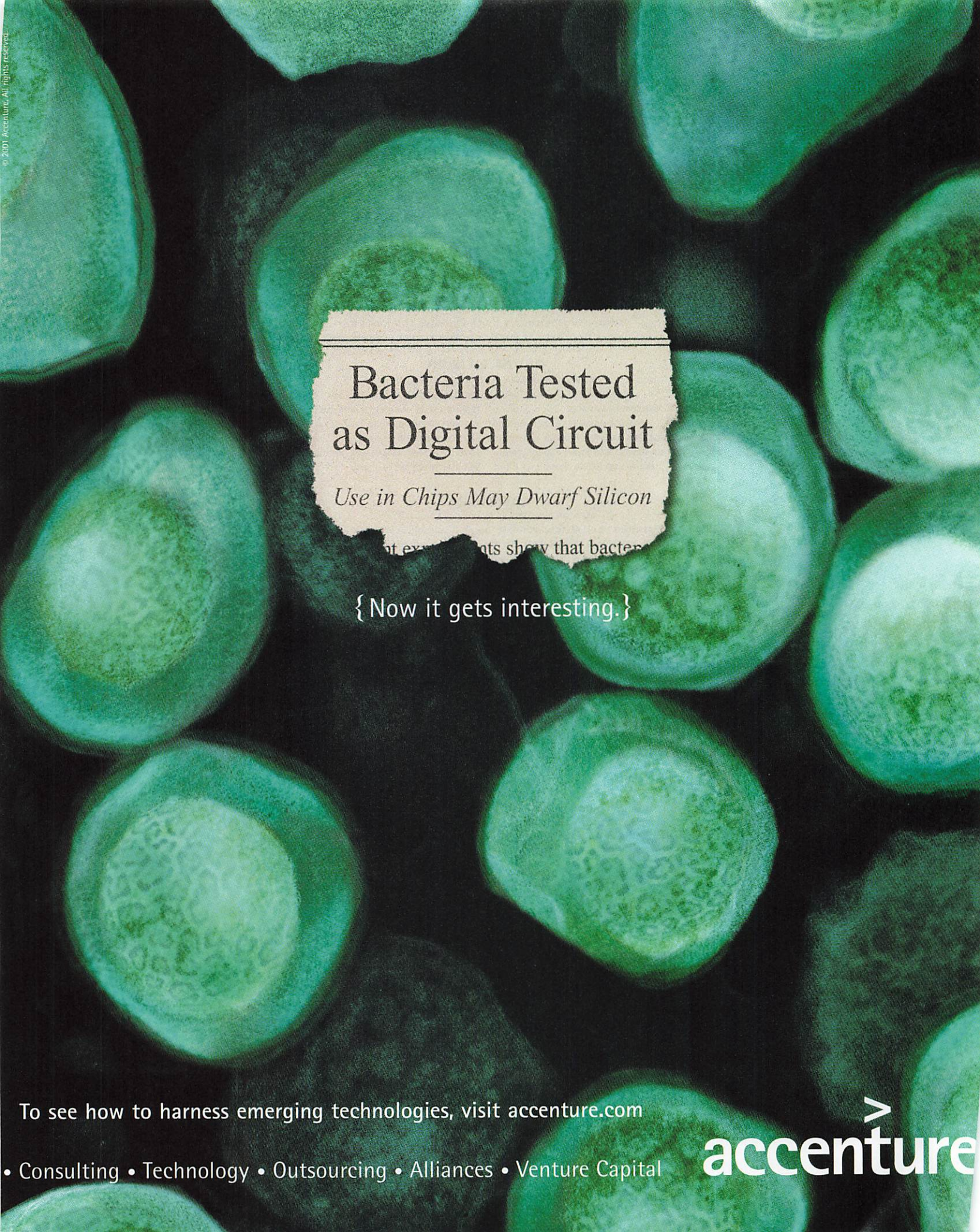
Business 2.0 Italy
Future Media Italy
Via Asiago 45,
20128 Milan,
ITALY
+39.02.252.9161

Business 2.0 South Africa
PO Box 2917
Parklands 2121
Johannesburg,
SOUTH AFRICA
+27 11 442 6006

Business 2.0 Israel
Yad Haruzim 13
Tel Aviv 61116
ISRAEL
+972 3 638 5888

Business 2.0 Korea
BoRyung Building 6th Floor
66-21 Chongro-Gu 4-Ga,
Wonnam-Dong, 110-750
Seoul, SOUTH KOREA
+822 514 1449

© 2001 Accenture. All rights reserved.


Bacteria Tested as Digital Circuit
Use in Chips May Dwarf Silicon
{ Now it gets interesting.}
To see how to harness emerging technologies, visit accenture.com
• Consulting • Technology • Outsourcing • Alliances • Venture Capital
accenture

BUSINESS2.0

BUSINESS2.COM

BUSINESS DIVISION

PRESIDENT Michela O'Connor Abrams

ASSISTANT TO THE PRESIDENT Diane Joyce, 415-656-8223

BUSINESS MANAGER Ginny Kao, 415-656-8227

FINANCIAL ANALYST James Matthews, 415-656-8289

DIRECTOR OF GLOBAL BUSINESS DEVELOPMENT Anne Flanagan

NATIONAL ADVERTISING DIRECTOR, SPECIAL SECTIONS Michael Zivyak, 212-231-4070

EVENTS DIVISION

DIRECTOR OF EVENTS Mark Furrer, 415-656-8220

CONFERENCE/EVENTS MANAGER Lauren Dismuke, 415-656-8262

DIRECTOR OF CONFERENCE SALES Jessica Ross, 415-656-8231

CONFERENCE/EVENTS COORDINATOR Rabbit Conanan, 415-656-8210

ONLINE DIVISION

VICE PRESIDENT/GENERAL MANAGER Nicole C. Brown

CHIEF STRATEGIST Robert Spears

SENIOR PRODUCT DEVELOPMENT MANAGER Brian Sullivan

PRODUCT MANAGER Robert Beahm

AUDIENCE DEVELOPMENT MANAGER Pamela Stevenson

PARTNER SERVICES MANAGER Nicole Cassani

LEAD WEB DEVELOPER Stephanie Oura

DIRECTOR OF ONLINE MARKETING Joy Daniels, 415-656-8213

REGIONAL SALES MANAGER John España, 415-656-8278

ACCOUNT EXECUTIVE Anne Toal, 212-287-5126

SALES COORDINATOR Brian Pugh, 212-287-5124

ADVERTISING SERVICES MANAGER Enrique Gonzalez, 415-656-8252

WEB DEVELOPER Peter LaPorte

ADVERTISING

ASSOCIATE PUBLISHER Julie Tuttle, 415-656-8279

ASSISTANT TO THE ASSOCIATE PUBLISHER Sarah Bloomenthal, 415-656-8607

ADVERTISING SERVICES MANAGER Maggi Cleveland, 415-656-8209

WEST COAST 415-656-8699

SOUTHWEST SALES DIRECTOR Michael Reagan, 310-481-6173

SF/UT/ID REGIONAL SALES MANAGER Anthony Andrade, 415-656-8232

SILICON VALLEY REGIONAL SALES MANAGER Amy Allerheiligen, 415-656-8202

SILICON VALLEY/NV/CO REGIONAL SALES MANAGER Sandra Gibson, 415-656-8233

SOUTHWEST REGIONAL SALES MANAGER Carolyn Wood, 310-481-6162

SOUTHWEST REGIONAL SALES MANAGER Kimberly Gibson, 310-481-6151

ACCOUNT EXECUTIVES Tim Hall, 310-481-6159; Noeme Santos, 415-656-8294; Rebecca Wright, 415-656-8261

SALES COORDINATORS Tom Ocampo, 415-656-8210; Laura Rogers, 972-385-9648; Joe Villeda, 415-656-8258

ADVERTISING COORDINATOR Samantha Berg, 415-656-8602

EAST COAST 212-768-2966

MICHIGAN/OHIO SENIOR SALES MANAGER Barbara Dickinson, 248-433-0169

NYC/NEW JERSEY REGIONAL SALES MANAGER Janna Zaidspiner, 212-231-4074

NYC/LONG ISLAND REGIONAL SALES MANAGER Stephen Flink, 212-231-4063

NORTHEAST SENIOR SALES MANAGER Stuart Hubbard, 617-451-0525

NORTHEAST SENIOR SALES MANAGER Debbie Kane, 781-631-6066

SOUTHEAST SENIOR SALES MANAGER Dean Grant, 212-231-4073

SOUTHEAST REGIONAL SALES MANAGER Jennifer Pellow, 972-385-9789

ACCOUNT EXECUTIVES Daniela Fornataro, 212-231-4065; Paige Harris, 212-231-4095; Eric Bizzak, 212-231-5127; Lisa Sherman, 212-231-4067

SALES COORDINATORS Lisa DeRosa, 212-231-4076; Hayden Wilbourn, x4088; Katie Quitter, 212-287-5117

MARKETING

VICE PRESIDENT OF MARKETING Diane Schindler Carlson, 415-656-8207

DIRECTOR OF MARKETING Andrea Fleming, 415-656-8219

MARKETING MANAGERS Tiffany Suen, 415-656-8253; Marybeth Stankovits, 415-656-8251; Marc Yasuda, 415-656-8249

DIRECTOR OF PLANNING AND RESEARCH Kathleen O'Donnell, 415-656-8240

ART DIRECTOR Ken Bousquet, 415-656-8205

GRAPHIC DESIGNER Johnny Gallardo, 415-656-8275

RESEARCH COORDINATOR Mira Kanter, 415-656-8226

PRODUCTION/CIRCULATION

PRODUCTION DIRECTOR Richard Lesovoy

PRODUCTION MANAGER Warren Baskin

PRODUCTION COORDINATOR Jose L. Urrutia

DIRECT MAIL MANAGER Julie Ridgeway

GROUP CIRCULATION DIRECTOR Tina Rodich

SUBSCRIPTION DIRECTOR Joan Braunstein

NEWSSTAND MANAGER Jonathan Venier

DIRECT MARKETING SPECIALIST Dan Simpson

FULFILLMENT MANAGER Peggy Mores

Imagine Media is part of The Future Network plc.

The Future Network serves the information needs of groups of people who share a passion. We aim to satisfy their passion by creating magazines and web sites that offer superb value for money, trustworthy information, multiple ways to save time and money, and are a pleasure to read or visit. This simple strategy has helped create one of the fastest-growing media companies in the world: today we publish more than 130 magazines, over 45 magazine web sites and eight specialist web networks from offices in seven countries. The company also licences 52 magazines in 26 other countries. The Future Network plc is a public company quoted on the London Stock Exchange (symbol: FNET).

Chairman: Chris Anderson
Chief Executive: Greg Ingham
Finance Director: Ian Linkins
Tel +44 1225 442244

www.thefuturenetwork.plc.uk

Bath London Milan Munich New York Paris Rotterdam San Francisco Tokyo Wroclaw

Business 2.0 is published biweekly by Imagine Media, Inc., 150 North Hill Drive, Brisbane, CA 94005, USA. Periodicals Class postage paid at Brisbane, CA, and additional mailing offices. POSTMASTER send changes of address to *Business 2.0*, P.O. Box 56141, Boulder, CO 80328-6141. Newsstand distribution is handled by Curtis Circulation Co. Subscriptions: one year (26 issues): U.S., $19.95; Canada, U.S.$30; foreign, U.S.$45. Canadian price includes postage and GST (R R128 220688); CPC Int'l. Pub Mail (0781045); ISSN (1080-2681). April 3, 2001.

Entire contents copyright 2001, Imagine Media, Inc. All rights reserved. Reproduction in whole or in part without permission is prohibited. Products named in these pages are tradenames or trademarks of their respective companies. Imagine Media, Inc. is not affiliated with the companies or products covered in *Business 2.0*. Printed in the United States of America. (Volume 6, Issue 7)

For customer service, phone 800-234-0804, or email custserv@business2.com. For high-quality article reprints, please contact Reprint Management Services at 717-399-1900, ext. 135.

COOL. DOABLE.

I.P.O. (INSTANT PRIMO OFFICE)

Now you can get out-of-the-box design right out of the box. The RED Rocket™ workstation by designer Ayse Birsel. You'll find it on-line starting around $330. While you're there, check out the Caper Chair by designer Jeff Weber. Order them both. Someone in short pants will bring them to you.

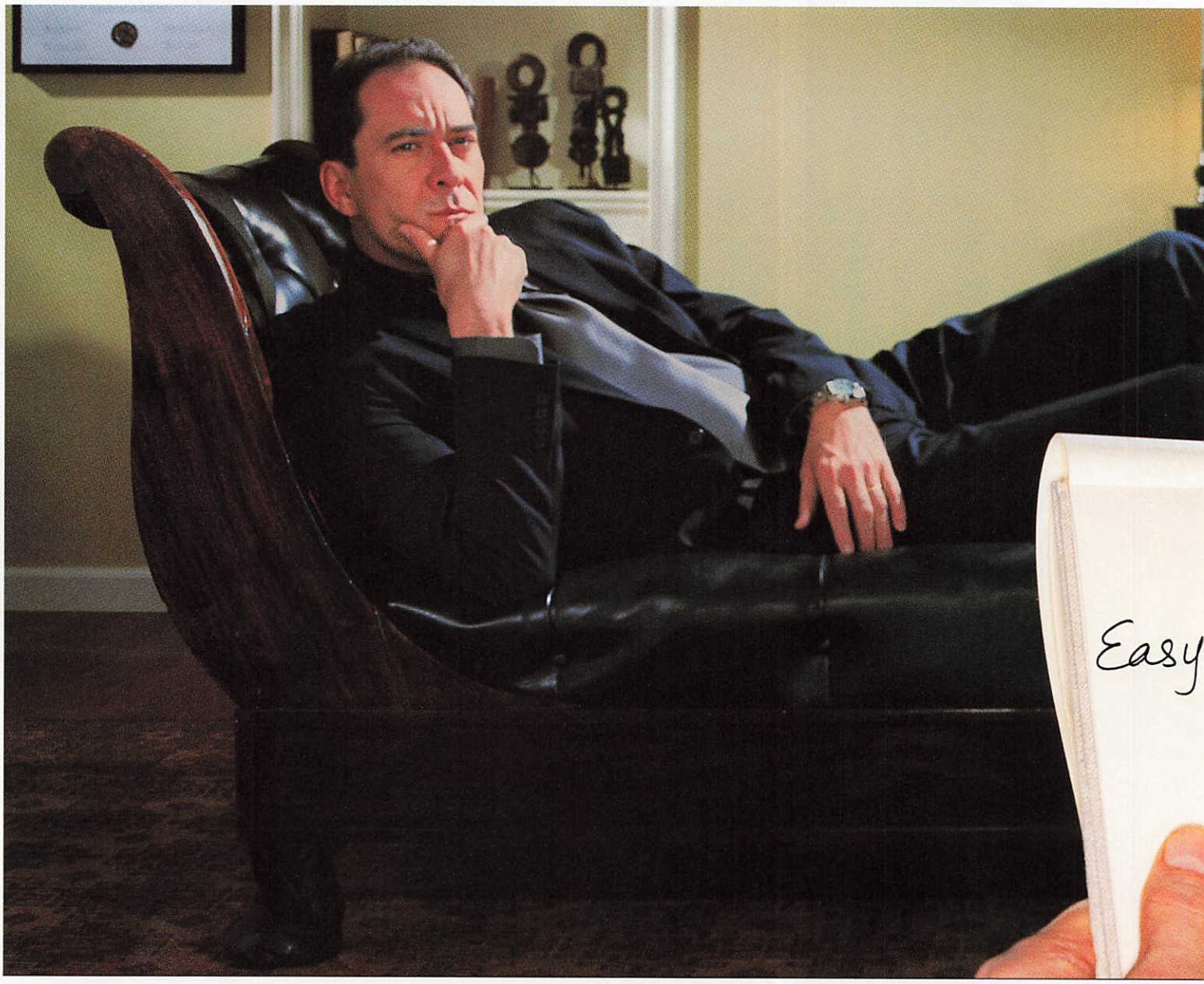
For more instant gratification, see Herman Miller RED at **www.hermanmiller.com.**

RED™

HermanMiller

© 2000 Herman Miller, Inc., Zeeland, MI ® , Caper, and RED Rocket are registered trademarks of Herman Miller, Inc.

SOLUTIONS FROM DELL, MICROSOFT
GIVING IMPOSSIBLE AN INFERIORITY

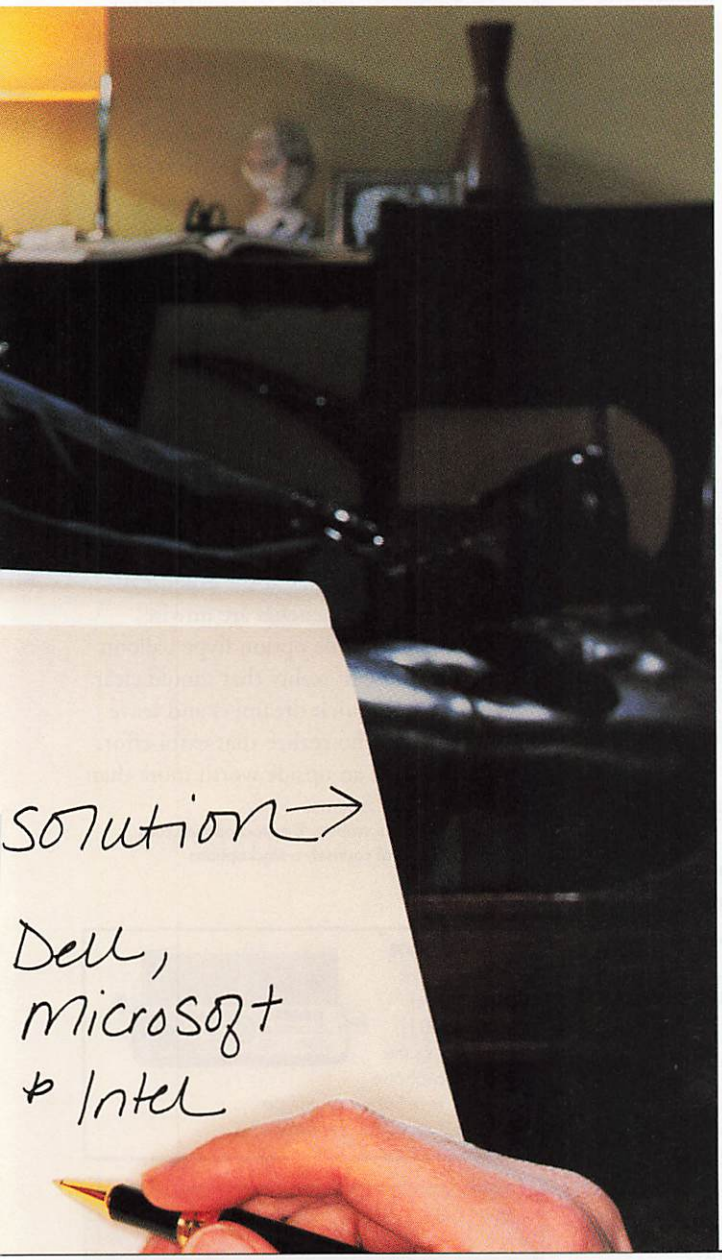


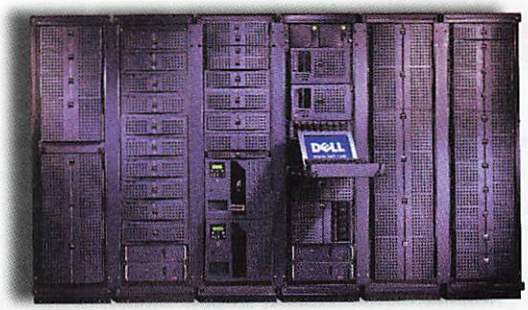
intel inside

pentium® III xeon™

Microsoft and Windows are trademarks of Microsoft Corporation. Intel and Pentium are registered trademarks and Xeon is a trademark of Intel Corporation. USATODAY.com is a registered trademark of Gannett Co. Inc. UNIX is a registered trademark of The Open Group. Dell, PowerEdge and the Dell logo are trademarks of Dell Computer Corporation. ©2001 Dell Computer Corporation and Microsoft Corporation. All rights reserved.

AND INTEL. COMPLEX.





At Dell,™ Microsoft and Intel,® we specialize in solving the impossible. Offering customized solutions that scale on demand with the reliability and interoperability you need. And we do it to meet your timetable.

One call to Dell and we'll consult, design, build and service an Internet solution custom fit to your needs. Our server and storage systems arrive custom-configured and ready to run —24x7. We'll even help you set it up. With our rackable, scalable servers and the proven performance of Microsoft® Windows® 2000, we know what it takes for your company to grow its e-business. We've already provided fast, effective solutions to a growing list of companies. And we can do the same for yours.

When USATODAY.com needed a reliable, easy-to-use, scalable platform to drive their 2000 Summer Games Web site, we had the site up and running in only seven weeks.

Why do many corporations choose Windows 2000 running on Dell PowerEdge™ servers with Intel® Pentium® III Xeon™ processors to power their e-business solutions? Because together they deliver an alternative to UNIX® that is highly scalable, highly reliable and easily customized. In fact, more applications have been developed for the Windows platform than any other platform in history. Windows 2000 also provides greater interoperability, and significantly reduces the cost of ownership over previous Windows versions.

Want more information on products and services for your e-business? Get answers at the speed of Dell, Microsoft and Intel. Log on to www.dell.com/ebusiness.

DELL™

E-business solutions, made easy with Dell

800.900.DELL
WWW.DELL.COM/EBUSINESS

VOX

Don't blame banners

With regard to your recent article on banner ads on the Web ("Not By Ads Alone," February 20, 2001, p70), I have been following the online grocery market since its inception and have predicted all of the failures to date. I also operate a number of Websites that are supported by the much-maligned ad banner.

Periodically, we see Webvan trucks driving around our neighborhood, but have failed to see the value that the service really delivers. While on Yahoo! this morning, I saw a banner ad for Webvan and decided to click on it. After choosing my region, Atlanta, I got a screen that showed the following message: "We're sorry. Our store is temporarily unavailable while it is being updated. It will be available again soon."

Not By Ads Alone

So where is the failure here? The banner ad did its job; it got me to think about Webvan and its product. But Webvan failed to do its job and actually allow me to take some sort of action. How frustrating is that? Ultimately, the ineffectiveness of the banner advertising is what the merchant will likely blame.

Steven Eppinger, seppinge@mindspring.com
President and CEO, Ownersite
Roswell, GA

Show some respect

Nick Usborne asserts in his column that permission marketing has been "diluted, polluted, and drained of all its early promise" ("The Death of Permission," February 20, 2001, p72). But why call these folks "permission marketers" at all? "Deceit marketers" or "Wolves-in-sheep's-clothing marketers" would be more like it.

The true spirit of permission marketing was not to mislead or deceive consumers, but far too many marketers hide behind the veil of permission to legitimize what they know is not necessarily in the consumer's best interest.

I propose an alternative term: "respect marketing," where marketers not only fully disclose their intent and establish accurate consumer expectations upfront, but also where consumers are in full control of the permission they grant at any time—which includes the ability to easily unsubscribe.

Hollis Thomases
hollis@webadvantage.net
President, Web Ad.vantage
Aberdeen, MD

Really, enough already!

After seeing that *tsunami* was the overworked word in the "Enough Already!" feature in your Filter section (February 6, 2001, p29), I had to chuckle when I read on page 77 of the same magazine: "the engineers and technical support staff came to regard their days as violent tsunamis of troubleshooting."

I guess you got swept up in it, too.

Carl E. Cormany, cecormany@aol.com
Research Director, SGRO Consulting
Shaker Heights, OH

Piles of plastic trash

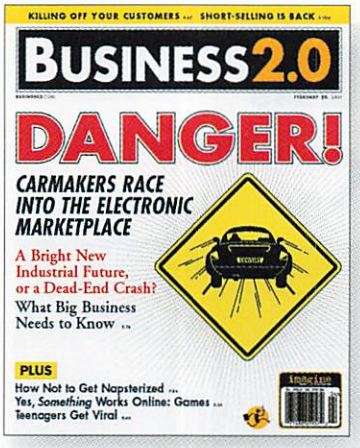
As amazing as the development of plastic circuits is ("Welcome to Plastic Valley," February 6, 2001, p48) we must remain aware of the environmental consequences of mass producing "inexpensive, throwaway plastic semiconductor chips." Millions of computers are heading toward the trash because of lower costs, but we do not have an efficient and safe solution for disposing of them and their chemicals.

Should millions of plastic circuits flood the market in every appliance and every device, what will be the effects of pentacene or pentacene-like molecules on the environment when they are thrown away?

Shing Ho Cheng, shc201@yahoo.com

Wealth is not an option

Despite the disappointment of many twentysomething dot-com workers (or former workers), stock options represent a fundamental and important improvement in aligning individual compensation with overall company performance ("Return of the Crummy Job," February 6, 2001, p74).


KILLING OFF YOUR CUSTOMERS ... SHORT-SELLING IS BACK ...
BUSINESS2.0
DANGER!
CARMAKERS RACE INTO THE ELECTRONIC MARKETPLACE
A Bright New Industrial Future, or a Dead-End Crash?
What Big Business Needs to Know ...
PLUS
How Not to Get Napsterized ...
Yes, Something Works Online: Games ...
Teenagers Get Viral ...

Despite the hype, stock options were never a realistic lottery ticket for 99 percent of option holders. If option-based multimillionaire retirement at age 35 were uniformly experienced, who would be left to work? Dot-com executives who irresponsibly represented employee options as a ticket-to-riches hiring device probably also blew through millions in worthless marketing campaigns.

Options, when appropriately balanced, can continue to be a valuable *component* of compensation, and they can continue to spread throughout all companies, New Economy and Old. Except at the highest levels of executive compensation or fully disclosed entrepreneurial plays, overly weighted option holdings at the expense of good old salary and benefits are unwise.

The deflation of the option hype balloon is a welcome dose of reality that should clear out the get-rich-quick dreamers and leave worker/owners who realize that extra effort at work can have an upside worth more than that iffy holiday bonus.

Ken Webster, ken_webster@e-stockoptions.com
COO and general counsel, e-stockoptions
Lafayette, CA

CORRECTION

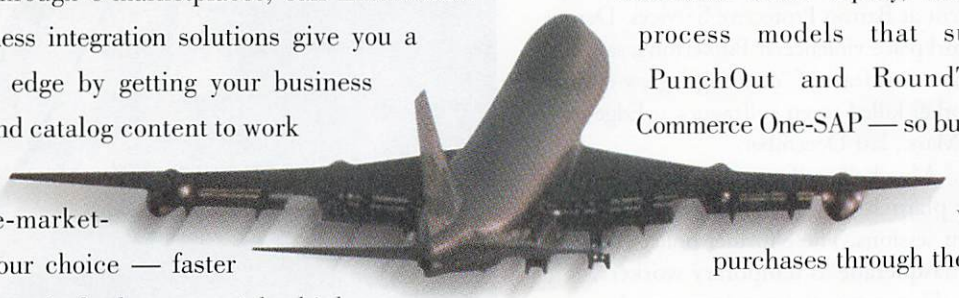
In "Wireless at Work" (March 6, 2001, p81), the picture of the video Web phone for 2002 is a Sanyo prototype. *Business 2.0* regrets the error.

LETTERS TO THE EDITOR: Letters may be edited for length and clarity. Please send comments to:
EMAIL: letters@business2.com Your email address will be published unless you request otherwise. Please provide full name, location, and if applicable, title and company.
SNAIL MAIL: *Business 2.0*, 5 Thomas Mellon Circle, Suite 305, San Francisco, CA 94134
FAX: 415-656-8660
WEBSITE: business2.com
CONTACT THE STAFF: Most of our email addresses are the first initial of the first name followed by the last name and @business2.com.
SUBSCRIPTIONS: 800-234-0804
BACK ISSUES: 800-865-7240
REPRINTS: For Internet and paper (minimum of 100 copies) reprints, please phone 717-399-1900 ext. 135.

E-MARKETPLACES ARE TAKING OFF. DON'T GET LEFT BEHIND.

Enterworks can help you reach new customers faster by quickly joining all the e-marketplaces you need to sell in.

If you want to quickly reach new customers through e-marketplaces, call Enterworks. Our e-business integration solutions give you a competitive edge by getting your business processes and catalog content to work smoothly with the e-marketplaces of your choice — faster and less expensively than you might think.



- We help you *leverage your best practices by automating processes* in critical areas like inventory management, PO fulfillment, and invoicing, and then integrating them quickly and securely with e-marketplaces.

- We make sure that *you're always prepared for changing market conditions* and customer requirements by making it easy to instantly deliver up-to-date catalog content to marketplaces in the format they require — xCBL, cXML, RosettaNet PIPs, and others.

And Enterworks protects your cherished brand equity, too, with pre-built process models that support Ariba's PunchOut and RoundTrip/OCI from Commerce One-SAP — so buyers know they're buying from *you* when they make purchases through the marketplace.

E-marketplaces can be a powerful way to find and serve new customers. To learn more about Enterworks' solutions for helping you take advantage of e-marketplaces to build new business relationships, visit our Web site at **www.enterworks.com/1025.html** and download a FREE executive overview of *Challenges and Solutions for Supplier Enablement.* Or call **888-242-8356, ext. 1025.**

Enterworks. We'll help you arrive on time in successful e-marketplace sales.

Enterworks®

POWERING PORTALS AND E-MARKETPLACES

1-888-242-8356 x1025 www.enterworks.com/1025.html

©2000 Enterworks, Inc. All rights reserved. "Enterworks" and the "e." logo are registered trademarks of Enterworks, Inc. All other product, service and company names are trademarks or registered trademarks of their respective owners.

FILTER

Juggling the rules. —p18

Underpants and Sun Microsystems. —p20

This Way to the Door—Please

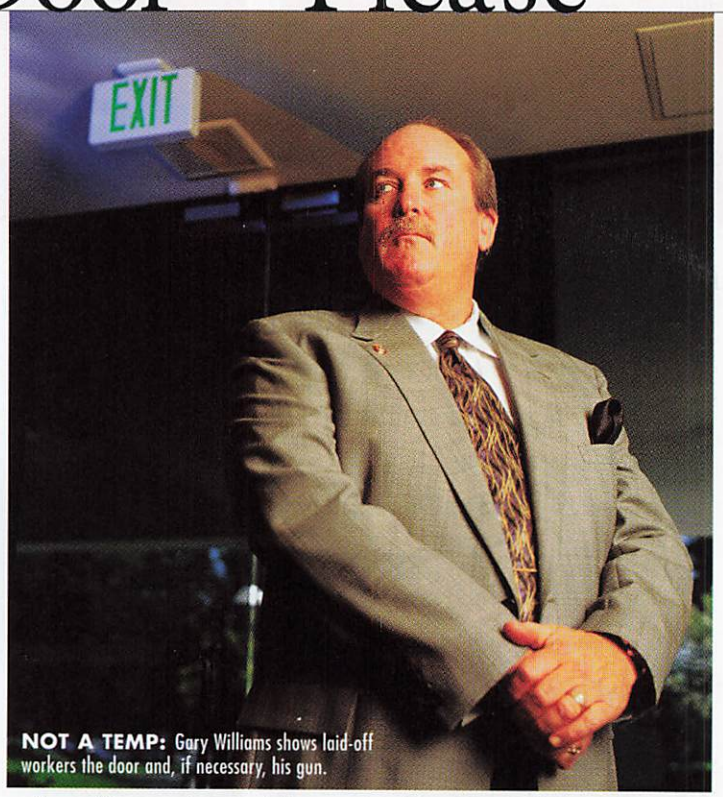
Enforcers secure graceful exits.

Layoffs mean tough times, especially for companies that must somehow tell dozens, if not hundreds or thousands, of employees in a single day that they need to turn in their badges. And tough times call for tough people. That means booming business for folks like Gary Williams, CEO of a private investigation and security consulting firm. Lately Williams' Interphase International runs at startup speed to keep up with ailing dot-coms looking to ensure that job cuts pass without incident.

"Anytime there are layoffs, the security industry sees an upsurge," says Lori Perry, vice president at Barton Protective Services. Dennis Moschella, an expert on workplace violence at Pinkerton's, says his business has spiked and notes that fears of "desk rage" grew dramatically after a disgruntled worker killed seven colleagues at Edgewater Technology in Wakefield, Mass., last December.

"It's going to get worse," Moschella self-servingly predicts. Most security companies offer plainclothes, armed operatives to sit in on layoff announcement sessions. These former police officers and off-duty cops often masquerade as temporary workers, laminated badges and all. They may take employees aside to discuss the inadvisability of violence. Many larger firms also hire special information technology security workers to ensure that emotionally distraught employees do not sabotage company networks before making their way out the door.

Many of these dot-com enforcers have been stabbed and shot during regular police work. They're tough as nails, but they don't underestimate the danger of a raging cubicle dweller. "You can't be too cautious," says Joe Daughenbaugh, who spent 33 years as a police officer and a special agent in the Bureau of Narcotic Enforcement at the California Department of Justice and who is now executive vice president of operations at Interphase. "These are tumultuous times for any employee who has been terminated." It makes the ones left with jobs nervous, too.



NOT A TEMP: Gary Williams shows laid-off workers the door and, if necessary, his gun.

PHOTO: PAUL TRAPANI

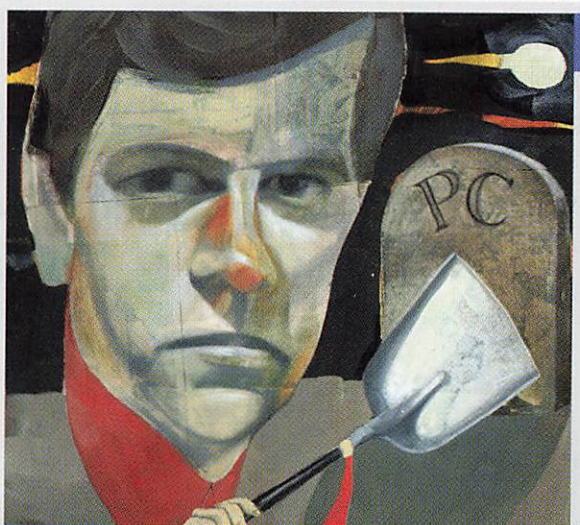


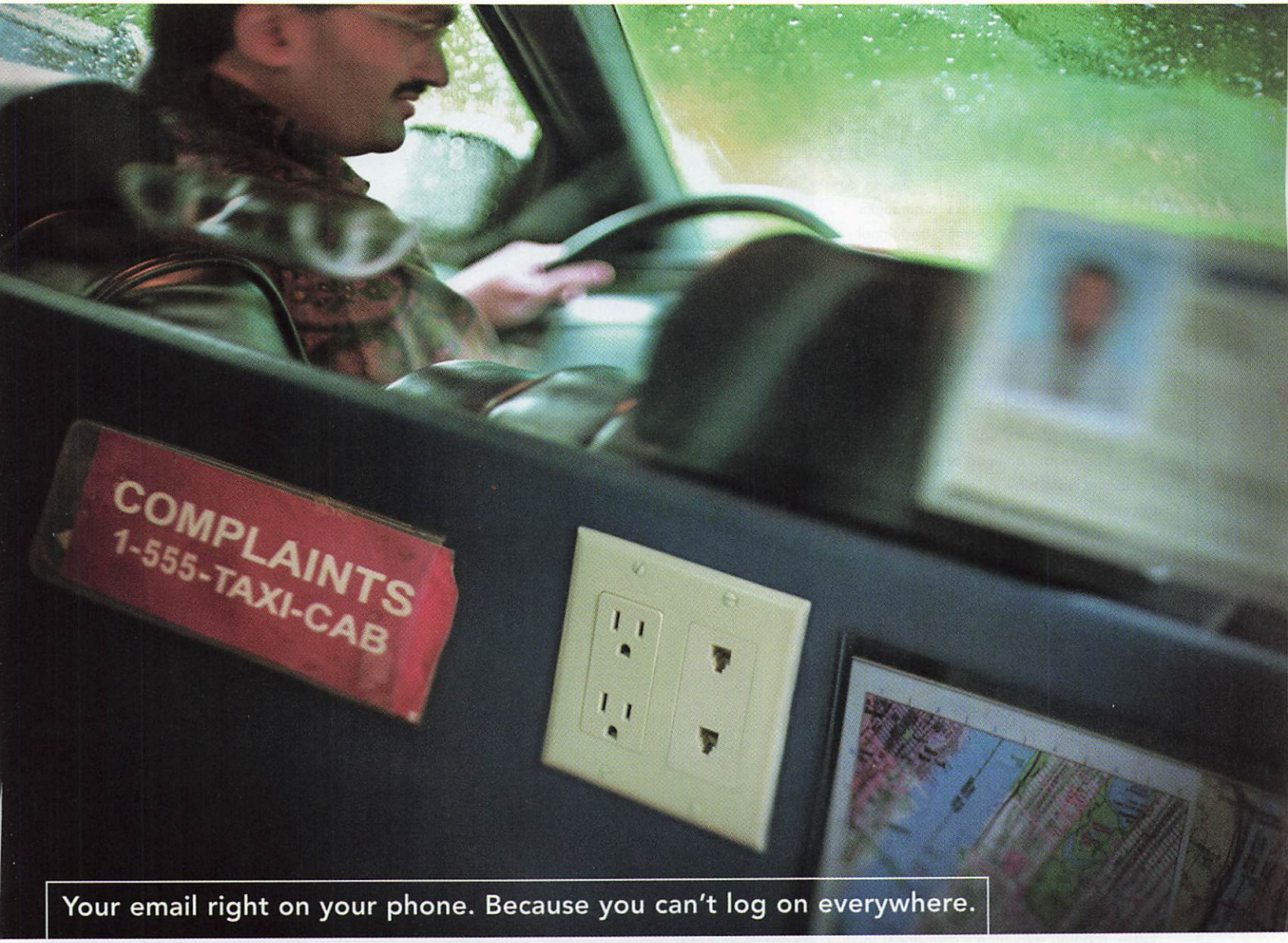
ILLUSTRATION: SCOTT LAUMANN

blurbage...

"People ask me when the PC is going to die. It's already dead for me."

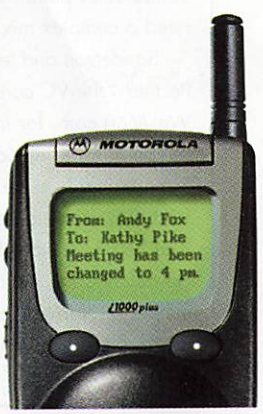
Scott McNealy, CEO, Sun Microsystems

- "Just because you like my stuff doesn't mean I owe you anything." **Bob Dylan,** musician
- "It has taken me awhile because I prefer having a more personal relationship with my constituents." **Rep. Joel Hefley** (R-Colo.), the last member of Congress to go online.
- "Money may kindle, but it cannot by itself, and for very long, burn." **Igor Stravinsky,** composer



Your email right on your phone. Because you can't log on everywhere.

With Nextel's Mobile Office Email, you'll be able to get your email, calendar and contact list wherever you are right on your phone. You can receive calls while you're using it. It doesn't use up voice minutes. And you get instant access to important email because you don't have to log on every time. Nextel. More ways than anyone to communicate with everyone.℠



NEXTEL® Mobile Office Email
See it work at nextel.com/email

©2001 Nextel Communications, Inc. All rights reserved. Nextel, the Nextel logo, Nextel Direct Connect, More ways than anyone to communicate with everyone, and How business gets done are trademarks and/or service marks of Nextel Communications, Inc. MOTOROLA, The Stylized M Logo and all other trademarks indicated as such herein are trademarks of Motorola, Inc. Reg. U.S. Pat. & Tm. Off. All other product names and services are the property of their respective owners.

Promo: NEX101-075-034

FILTER

A New Spin

WITH THE INTERNET momentum shifting away from pure dot-coms, traditional companies must look to seize ecommerce opportunities. Hoping to help transform traditions is eVolution Global Partners, a venture capital-and-services firm formed by capital heavyweight Kleiner Perkins Caufield & Byers, buyout body Texas Pacific Group, and consultancy Bain & Co.

www.evopartners.com

Dave Sanderson, co-head of eVolution and a former Bain bigwig, aims to help Old Economy companies either put their core business online or spin out new ebusinesses from underused assets. He believes one reason eVolution is needed is that the typical venture capital model fails in a corporate environment.

"You're not backing an entrepreneurial team. You're backing a concept with a set of assets," Sanderson says, "so it's more resource-intensive." For example, eVolution's inclusion of a buyout company is key, he says, because corporate ventures involving many companies demand "more of a deal-making skill set." So eVolution provides money, technical teams, strategic partners, and other aids to accelerate the dot-corp, freeing it from corporate bureaucracy.

Case in point: eVolution's investment in LevelSeas, an online marketplace for maritime shipping. When in early January 26 partners joined LevelSeas, it seemed it would take a separate firm just to track who would be partnering with whom. And that's exactly Sanderson's point—that corporate e-ventures need a complex mix of services.

Sanderson and team are not alone. Accel Partners, the VC concern that is backing Wal-Mart.com, for instance, works with buyout people at Kohlberg, Kravis, Roberts in this niche. "I think we're at the start of a very big trend," Sanderson says. And he's not strictly talking about the Net. He believes the dot-coms sent an important message. "I love the fact that the whole dot-com era happened, because it forced innovation."

"I love the fact that the whole dot-com era happened, because it forced innovation."

DAVE SANDERSON

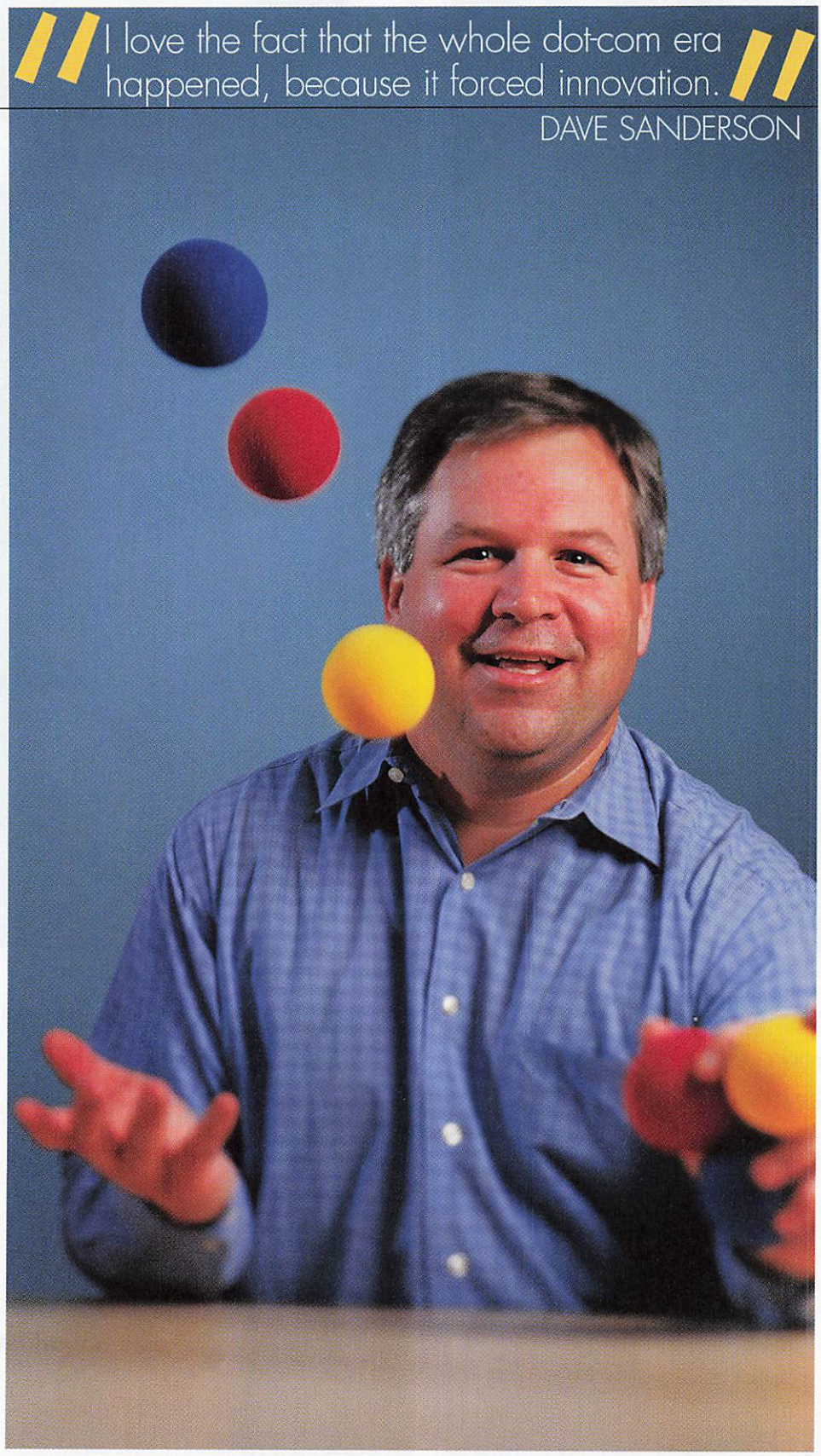
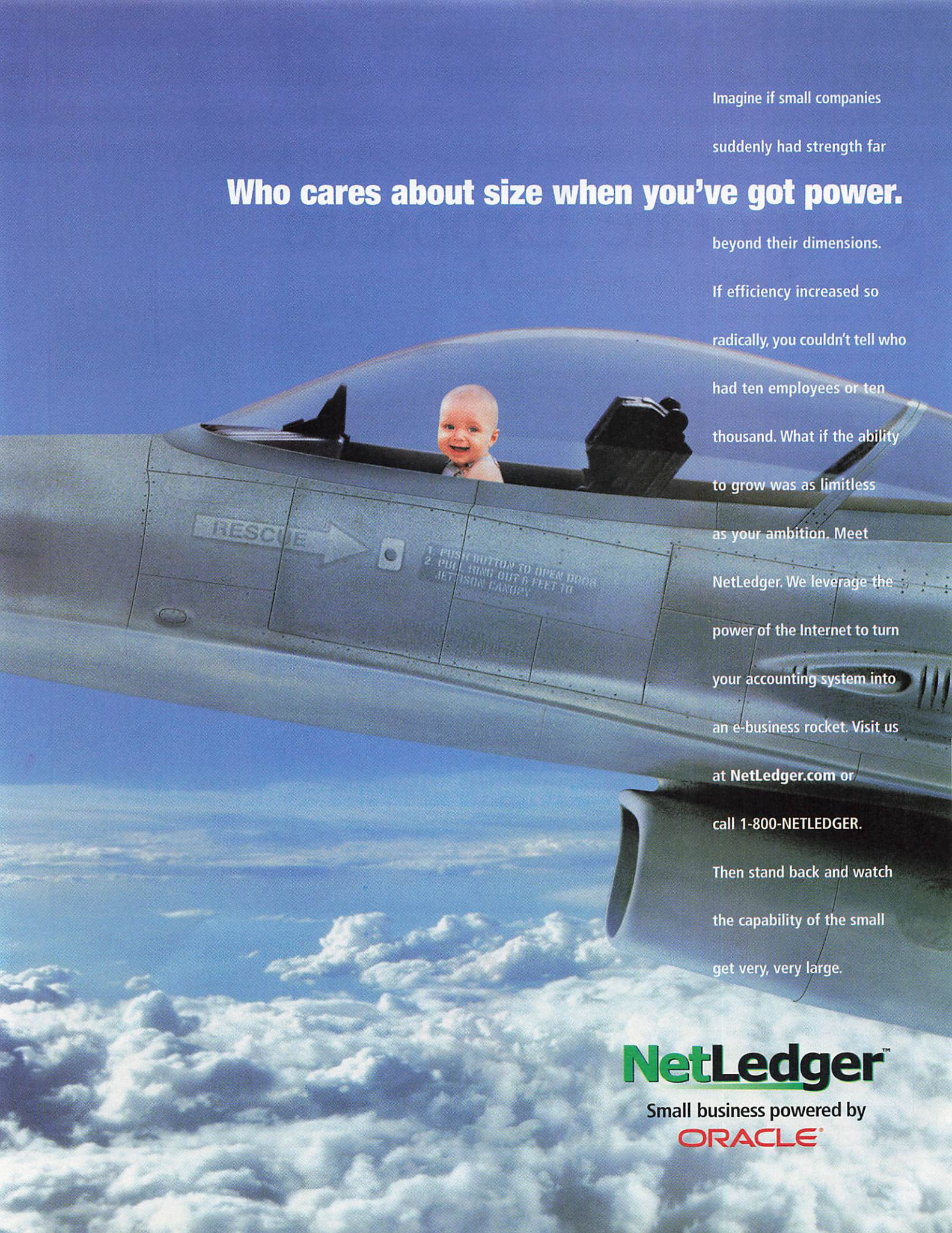


PHOTO: J.P. LANDIANDS



Who cares about size when you've got power.

Imagine if small companies suddenly had strength far beyond their dimensions. If efficiency increased so radically, you couldn't tell who had ten employees or ten thousand. What if the ability to grow was as limitless as your ambition. Meet NetLedger. We leverage the power of the Internet to turn your accounting system into an e-business rocket. Visit us at **NetLedger.com** or call 1-800-NETLEDGER. Then stand back and watch the capability of the small get very, very large.

NetLedger™

Small business powered by

ORACLE®

Corporate Exposure

What are your employees reading, watching, and listening to?

Now more than ever, your choices as a consumer say a lot about you. The purchase preferences of cities, corporations, and organizations of all sorts are similarly revealing. You can glimpse the inner psyche of your company or of your biggest corporate rival at Amazon.com's Purchase Circles, where group preferences are recorded and listed for all to see.

Microsoft's top 10, for instance, is all geek and self-interest. The list includes five specialized technical how-tos (Best seller: *A Programmer's Guide to C++*), four books about Microsoft, and one general management primer.

The Oracle list follows a similar pattern and there's nothing unusual about the choices at Sun Microsystems until No. 8, *Captain Underpants and the Perilous Plot of Professor Poopypants: The Fourth Epic Novel*, which certainly doesn't show up on the Pricewaterhouse-Coopers list or those of any other major companies.

Amazon Purchase Circles also compile lists of favorite CDs, DVDs, and electronics gear, so it's possible to develop a rich profile of varying corporate tastes—a handy research tool for savvy job-seekers.

Xerox Parc's Top 10 Books

1. **All Hat and No Cattle: Tales of a Corporate Outlaw** Chris Turner, Alan Weber
2. **The Knowledge Advantage: 14 Visionaries Define Marketplace Success in the New Economy** Dan Hothouse, ed.
3. **Pocket Guide to Digital Printing** Frank Cost
4. **IT Services Costs, Metrics, Benchmarking and Marketing** Anthony F. Tardugno, et al
5. **Dealers of Lightning: Xerox Parc and the Dawn of the Computer Age** Michael Hiltzik
6. **Fumbling the Future: How Xerox Invented Then Ignored the First Personal Computer** Douglas K. Smith, Robert C. Alexander
7. **The Game of Work** Charles A. Coonradt
8. **Do Fish Drink Water?: Puzzling and Improbable Questions and Answers** Bill McLain
9. **PostScript(r) Language Reference** Adobe Systems
10. **Selling to VITO (The Very Important Top Officer)** Anthony Parinello, Dennis Waitley

Paramount Pictures' Top 10 Books

1. **Which Lie Did I Tell: More Adventures in the Screen Trade** William Goldman
2. **The Keys to the Kingdom: How Michael Eisner Lost His Grip** Kim Masters
3. **The Operator: David Geffen Builds, Buys and Sells the New Hollywood** Tom King and Thomas R. King
4. **The Artist's Way: A Spiritual Path to Higher Creativity** Julia Cameron
5. **Harry Potter and the Chamber of Secrets** J.K. Rowling
6. **The Beatles Anthology** The Beatles
7. **Harry Potter and the Prisoner of Azkaban** J.K. Rowling
8. **Harry Potter and the Goblet of Fire** J.K. Rowling
9. **Harry Potter and the Sorcerer's Stone** J.K. Rowling
10. **Body for Life: 12 Weeks to Mental and Physical Strength** Bill Phillips, Michael D'Orso

Trusting the Brain Trust

Calling itself an intellectual capital exchange, Santa Clara, Calif.–based HelloBrain sells brain matter. Or more precisely, acts as an Internet-based auction house for brains. Or even more specifically, knowledge and skills.

And as people buy and sell knowledge, it becomes intellectual capital. Dubbed the eBay for the high-tech industry, HelloBrain's marketplace allows users—which run the gamut from technology firms to software publishers—to trade technical solutions rather than goods, services, or financial instruments. Buyers post a requirement description and a price, and "solution providers" bid on various projects. Companies and bidders then collaborate via the Web on solutions.

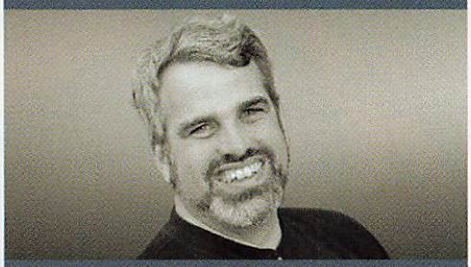
Since its launch—with $3.5 million in funding from Redpoint Ventures—HelloBrain has seen more than 700 projects listed, of which it collects up to 25 percent in commissions, depending on the complexity of the work. A typical project value hovers around $20,000, with the highest topping out at $1.7 million.

The way Bharat Sastri and Joe Tung, co-founders and old-school techies, see it, there's an answer for every question and someone out there has it. It's just a matter of connecting the two, Sastri says. "We're taking advantage of what the Internet was originally designed to do, which was connect scientists and engineers."

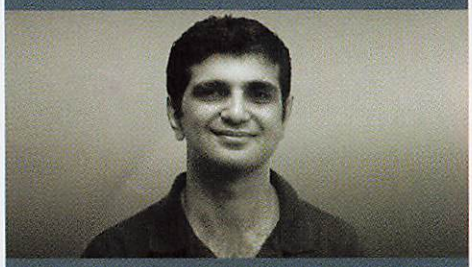
WHAT IS NEEDED FOR THE WIRELESS MARKET TO TRULY TAKE OFF?

Howard Diamond, chairman & CEO, Rebar
"Large enterprises need to adopt wireless technology for real business use. The market is just beginning to imagine the benefits that fast-and-easy access to business-critical data and applications afford. That's the real driver."

Garth Saloner, professor of electronic commerce, Stanford Graduate School of Business
"Wireless computing competes with wireless voice and high-bandwidth land lines, both of which have high functionality and low cost. Except for a small minority, high-cost, limited-functionality, specialized Web devices lose that competition. It will take either ubiquitous low-cost high-bandwidth wireless or a novel specialized killer app to accelerate adoption."



Cliff Pollan, CEO, NewsEdge
"It's all about easy and clean bundling. The cable TV industry has learned and adapted. ISPs have learned and adapted....Smart wireless carriers should be packaging services—air time, business news, stock quotes, messaging, email, and more—into a small number of tightly defined bundles. Pricing and billing for the package should be one-line-easy and clean."



Arif Baigmohamed, executive vice president, SetNet
"Exciting wireless products and services are already available. Portals and operators now have to educate subscribers. By phasing the launches of enhanced services, rather than overwhelming overloaded consumers, they will achieve the most rapid penetration."

Has Your Domain Name Expired?

...and will someone grab it out from under you?

Remember all those television ads register.com ran a year ago? If they didn't tempt you to load up on .com, .net, and .org names back then, you might get a second chance this year. Last year's boom in domain registration sales, fueled by dropping prices and the popularity of new one-year registration terms, means registrars predict a surge this year in names that get discarded.

"There will probably be some pretty cool names coming available," says Steve Lorenc, general manager for Web identity at domain registration site VeriSign, who predicts that as many as 20 million domain names may be up for renewal this year.

www.verisign.com

If registrations expire on just 10 percent to 15 percent of those sites, he says, then as many as 3 million names could be up for grabs. Some names that might come in to play soon include *www.looking2shop.com, www.webpageinformation.com,* and *www.solutionads.com.*

The question, Lorenc says, is "How do we present these choices to people?"

Ron Wiener, CEO of SnapNames.com, says his company's Snap-Back service, introduced in December, may be the answer. Snap-Back protects a domain name by monitoring and notifying a registrant of any changes made to a registration record, Wiener says. It also provides a safety net by letting registrants sign up for automatic renewal when their registrations lapse.

But even when a name's registration comes to a close, the next guy in line does not automatically get it, Wiener cautions. With big bucks at stake over potentially valuable abandoned names, registrars' policies differ as to how, when, and whether they release names with expired registrations.

In the meantime, are registrars worried about the prospect of so many domain names being abandoned? "I'm not staying up awake at night over it," says Ross Rader, director of research and innovation at registrar site Tucows. Renewal rates have held steady since 1997 at about 85 percent to 90 percent, he says.

www.tucows.com

Any repeat of the same low prices that brought record sales last year mean speculators hoping to hit the jackpot by selling desirable domain names may have to wait awhile longer.

ENOUGH ALREADY!

"This danger point has not changed significantly since the early 1980s. What has changed is that more debtors are now reaching this **'tipping point'** annually."
—*The Dallas Morning News,* January 19, 2001

"The immediate concern is that a sustained economic downturn in California could prove to be a **'tipping' point,** driving a rapidly cooling economy into recession."
—Agence France-Presse, January 19, 2001

"The target date that Sony uses, for example, is sometime in 2005, when you're going to reach a **tipping point** in three areas: wireless communication, broadband, and the next generation of the Internet."
—*Computerworld,* January 15, 2001

"Does wireless telephony approach the **tipping point** for attracting price sensitive users?"
—pulver.com press release, January 18, 2001

"Finally, a **tipping point** is reached and overconfidence gives way to an equally excessive pessimism, leading the economy to unwind quickly."
—*The Washington Post,* January 15, 2001

Filter ideas? Email us at filter@business2.com.

CONTRIBUTORS: DOOR: ANDY GOLDBERG; SPIN: LOREN FOX; EXPOSURE: JAMES WRIGHT; TRUST: BECKY BERGMAN; DOMAIN: CHRISTINE LEWERS.

WE'VE MADE AFFILIATE MARKETING EASY. YOU'LL HAVE TO FIND NEW WAYS TO SUFFER.

Fast and affordable, Commission Junction is the easy way to use affiliate marketing to increase your online revenue. Merchants drive sales and only pay for results while affiliates turn their web site into a powerful revenue generating tool. It's a complete turn-key solution that takes the agony out of affiliate marketing. Visit *www.cj.com/fast* or call 1-800-761-1072.

commission junction

Coal makes a comeback. —p34

Services are what sells. —p38

Headhunters become VCs. —p42

The Benefits of Staying Small

A profitable grocery delivery service? Bollocks, you say. But PDQuick has found the right mix of products, technology, and size.

BY EMMANUELLE RICHARD

CEO Dan Frederickson knows what to stock at PDQuick.

As online grocers and same-day delivery services such as Webvan Group and Kozmo.com fight for survival, an older and lesser-known company called PDQuick is quietly beefing up its instant-gratification business in Southern California, and waiting for the right moment to take its act nationwide.

The 14-year-old grocery and meals express delivery service (known until recently by the cartoonish name of Pink Dot) spent last summer expanding its Los Angeles County presence to 16 distribution centers from 12. The on- and offline company's 400 drivers deliver everything from Frankenkrauts hot dogs to toilet paper to as many as 4,000 customers a day, usually within a half-hour. Customers typically call in, but now more of them—between 15 percent and 30 percent—place their orders online.

Within a half-hour
According to PDQuick, 85 percent of its orders are delivered in less than 30 minutes.

"PDQuick is not an Internet flash in the pan," says Ian Larkin, managing director of William Blair Capital Partners, which has invested $12.5 million in PDQuick since 1999. "This is a business that has been around for quite a while."

From 1987 to 1997, Pink Dot was a small, local delivery company with modest ambitions. It was founded by Bill Toro, who dreamed up the idea while watching cartoon character George Jetson order instant-delivery items from his television. In the amount of time PDQuick has been around, it has learned a few things that have allowed it to thrive while rivals have foundered. Some of its acumen comes from 14 years of delivering goods, while its profitable status is due in some part to the lucky timing of its proposed nationwide rollout. That is, it never happened.

www.pdquick.com

The company planned to open 30 new customer-fulfillment centers in Baltimore; Phoenix; Sacramento, Calif.; San Diego; San Francisco; San Jose, Calif.; and Washington, D.C. But the "bad climate" forced management to scrap plans outside of Los Angeles.

"We did go through a rapid expansion in May 2000 through the summer—that was our attempt to catch the wave of Internet glory and growth," says Matthew DeVoll, PDQuick's chief marketing officer. "[But] we realized fairly quickly that we didn't want to squander investors' money on mass-market advertising."

CEO Dan Frederickson, who joined the company in 1998 after a stint as president of Kinko's, helped land a $34 million round of financing last year from the likes of Brand Equity Ventures, TH Lee.Putnam Internet Partners, and General Electric Capital, with the intention of using the money to expand. Frederickson's disappointment is palpable when asked about the expansion postponement. "We are profitable at the operating level in Southern California, and we're growing very fast," he says tersely, sitting in PDQuick's airy headquarters in the sunny town of Camarillo, Calif., just north of L.A. "We're trying to concentrate on the operational effectiveness of the existing units."

PHOTOS: JONAH LIGHT

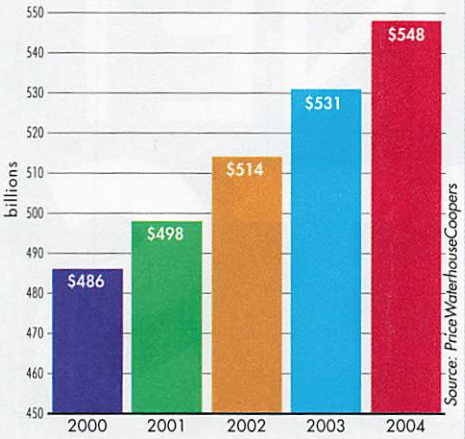
Thinking like a retailer

Frederickson should count his blessings that the expansion plans were derailed. Concentrating on the profitable bits is a luxury many companies—especially Internet delivery firms—wish they had. In January, onetime real-time delivery darling Kozmo.com abandoned Houston and San Diego and laid off 120 employees. Webvan, which acquired HomeGrocer.com last year, is trying to stay afloat with a stock price bobbing around 50 cents. Online grocers Streamline.com and ShopLink.com have gone under.

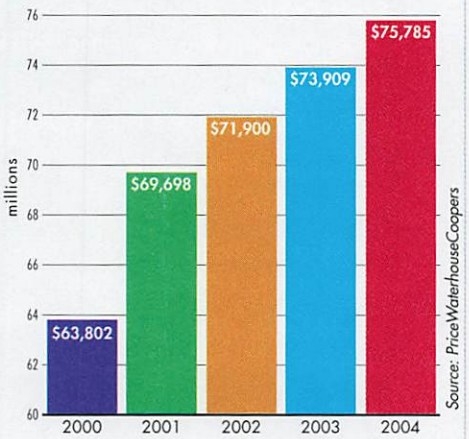
"Unlike many of our competitors, we have a business model that is already profitable,"

Shrinking Slices

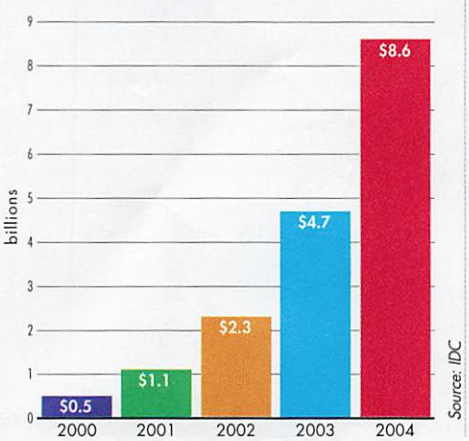
Consumers spent nearly a half-trillion dollars on groceries last year...



...13 percent of that total was spent at convenience stores...



...while online grocery shopping made up only 0.1 percent.



says Frederickson, lightening up. "It's not enough to have a Website: You have to think like a retailer. We see various competitors viewing themselves as distribution companies as opposed to retailers, and of course the margin in the distribution business is a lot smaller than in retail."

"Our strategy is small square footage, small units, smaller trade areas, and very profitable locations," says PDQuick's DeVoll. It's a strategy that goes completely against those of Kozmo and Webvan, which attempted to achieve operating efficiency across a very large distribution infrastructure.

Unlike Kozmo, which retreated last year from an earlier promise of free delivery to charge $1.99 for orders under $30 placed after 3 P.M., PDQuick has always charged for delivery. "It used to be $1.79 in 1993," recalls George Ziniewicz, the 30-year-old director of operations (and, at eight years, the company's ranking veteran). "That's the only way to offer a service with no minimum order." The company now charges $2.99 per order.

Another big difference between PDQuick and its nationwide competitors is cash. Customers looking for fresh sandwiches, booze, and smokes can place their orders with PDQuick without using a credit card, and then pay the delivery person cash or even personal checks. People at some companies, such as Hollywood-based iNetNow, have abandoned Kozmo for PDQuick for precisely this reason.

"When you order food for multiple people in the office, it's a lot easier to collect money from everyone," explains iNetNow Head Supervisor Jacob LaCivita.

"A lot of dot-coms are basically saying the Web is the only way to place an order," says Scott Langdoc, PDQuick's chief information officer. "We don't want to put any artificial restrictions on the way the customer can order from us."

"The way they work is more similar to a pizza delivery organization than to WhyRunOut or Webvan," says Arthur Zonneveld, Pink Dot's former chief of operations, who is now vice president of operations for WhyRunOut.com, a same-day delivery company that subcontracts for brick-and-mortar stores in Southern California. "It's a convenience-type of store. You can't really compare it to anything."

PDQuick learned what products are best suited for delivery the hard way. "We've tried it all at

e
C
R
M
UNISYS
www.aheadforebusiness.com
We have a head for e-busines

HOW TO TURN NET INITIATIVES INTO NET

PROFITS

PROVEN TRUTHS OF TODAY'S SUCCESSFUL COMPANIES

Profits matter. Always have. Always will. Successful companies know it—from large traditional ones to startups tapping into emerging markets. Learn their rules and tools for how to turn your Net initiatives into Net profits. **Space is limited. Register today.**

BUSINESS 2.0
RULES & TOOLS CONFERENCE
APRIL 2–3 NEW YORK CITY

Scheduled Speakers Include:

Scott Cook
Chairman, Executive Committee, INTUIT

John Hagel
Author, *NET GAIN* and *NET WORTH*

Catherine E. Buggeln
President, BOO.COM

Patricia Seybold
President, THE SEYBOLD GROUP

Mitchel Resnick
Associate Professor, MIT MEDIA LAB

Mark Pesce
Co-creator of VRML

Ravi Kalakota
CEO, E-BUSINESS STRATEGIES

Steve Mott
CEO, BETTERBUYDESIGN.COM

Phil Terry
CEO, CREATIVE GOOD

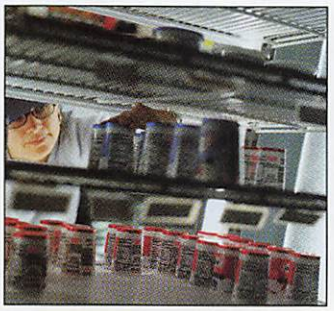
Harlan Kleiman
Managing Director, SHORELINE PACIFIC

For conference & registration information, call (888) 454.6593 or go to www.business2.com/rules

BUSINESS2.0

some point: videos, dry cleaning…" Ziniewicz says. "Some things work, others don't."

An attempt at delivering videos fell flat in 1998 because of the costly return process. Dry cleaning, like film processing, is thorny, says the director of operations: "Those are very personal items, and we would have to outsource to services with quality up to our standard." Last year PDQuick teamed with Virgin to deliver highly anticipated CDs, but that feature has been suspended as well. Carrying electronics goods, such as Kozmo does and the late Urbanfetch once did, does not make much sense for a company with 30-minute delivery time, he says. "But who knows?"



Yogurt, booze, sandwiches, 18 hours per day.

Ziniewicz says PDQuick also experimented with offering service 21 hours per day, before settling into 9 A.M. to 3 A.M. "We've found out that, at night, 99.9 percent of people sleep."

Supermarket competition

As a private concern, the company does not release figures for revenue, profit, or even burn rate, but it doesn't take an insider to know that major supermarket chains could strangle PDQuick's expansion plans in the crib if they move seriously into online ordering and express delivery. "It's especially challenging when you've got the local supermarkets allowing customers to place orders online and do in-store pickup," says Jill Frankle, director of retail ecommerce for Gomez, an Internet research firm.

Grocery chain Albertsons is already experimenting with such a model in the Seattle area, where it delivers groceries in 98 ZIP codes. "We hope this is the first of many," says spokesperson Jenny Enochson.

PDQuick's DeVoll says the company has been talking to big chains and other offline retailers about investing. "We're talking partnership with brick-and-mortars that would be willing to buy an equity [stake] in PDQuick," he says. "[Supermarkets] have well-known brands and great mailing lists, tremendous buying leverage. Having big partners could make us more profitable."

What the L.A.-area company would offer in return is an effective ordering system and 14 years of experimenting with what consumers like to have delivered.

"[Supermarkets] would face complicated business and software systems," DeVoll says. "Our software is plug-and-play. We're working on making it more scalable and licensing our delivery platform." PDQuick has developed a fully automated system that processes orders, deliveries, and inventory in real time, regardless of whether transactions are made by phone, via the Internet or in person.

"PDQuick is the only one doing that, as far as I know," concedes competitor Zonneveld. "To deal with orders in a timely fashion requires you to have proprietary software because you can't buy this off the shelf. It would cost you millions of dollars to have somebody make it for you."

What the future holds

Larkin says the company is looking at a couple of new markets, but won't make the move before late this year or early 2002. "It was very tempting two years ago. We didn't go as fast as [the competition], and we are in better shape today than our competitors who have had to do major retrenches."

Frederickson may be chomping at the bit, but for now the CEO is patient. "We don't want to get ourselves in trouble, so we're going take baby steps in new areas," he says. "We want to stay financially viable."■

EMMANUELLE RICHARD (EMMARICHARD@EARTHLINK.NET) COVERS THE INTERNET FOR THE FRENCH DAILY *LIBERATION*, AND IS THE LOS ANGELES CORRESPONDENT FOR SEVERAL FRENCH RADIO STATIONS.

e
s
e
c
u
r
i
t
y

UNISYS
www.aheadforebusiness.com
We have a head for e-business

Transactions speak louder than words.

The incredibly powerful result of elements reacting. This happens over 750 million times a day between businesses, customers and workforces worldwide using a DWL Unifi™ transactive solution - only without the risk of getting burned. DWL Unifi integrates legacy systems to connect back-office to business-user, delivering real-time, audience-driven and transactional empowerment via web and wireless devices. Clients like Royal & SunAlliance, National Life Group and The Body Shop have all learned that DWL Unifi solutions take your business from a spark to a flame. For more information on DWL products and services, visit www.dwl.com or call toll free: 1 877 864 3946.

DWL Incorporated

DWL Unifi™ is a registered trademark owned by DWL Incorporated

Wiring After War

Bosnia's war-torn economy offers a new opportunity for IT companies. But to become a player in the world economy, it first needs, well, almost everything. **BY BEATRICE HOGAN**

At first glance, Adam Dzoic looks like an ordinary salesman. He is one of more than 41,000 Oracle employees spreading the gospel of Larry Ellison in 145 countries. Like his colleagues in London or Tokyo or suburban Chicago, Dzoic has quotas to fill, clients to appease, and deadlines to meet.

His territory, though, is a bit tougher than most. He is Oracle's country manager for Bosnia-Herzegovina—the only on-site representative of a major Western technology firm in the war-ravaged country of 3.8 million.

Dzoic is among a handful of corporate representatives looking to sell the components of a modern information infrastructure to a region that clearly has more pressing concerns. "Bosnia is very poor," he says. "When I go outside of Sarajevo, I have a chance to see many more refugees. I would like to sell them software competence, but they haven't enough money to eat."

"I would like to **sell them software** competence. But they haven't enough **money to eat**."

Still, even this slightest semblance of a market in a destitute region presents a chance to gain a step on competitors. "It is very difficult now," Dzoic says from his two-room office suite that has Oracle logos taped to the front door. "But we have opportunities here. I think [the country] will not be [fixed] in one or two years, but maybe in four, five, or 10 years."

That's a long time to wait to enter the world. But many view the Bosnia-Herzegovina market as key to the economic development of the entire Balkans region, which lies at the crossroads of the Middle East, the former Soviet Union, and Western Europe.

The World Bank and other aid organizations say the former Yugoslav republics could soon lift their GDP figures. That's because the region is now a wide-open market with a chance to catch up with the Internet revolution that it missed during the 1990s. It could amount to a windfall of sorts for the first technology companies to secure contracts.

Prospects already exist: The National Bank of Bosnia-Herzegovina, for example, entertains bids of between $50 million and $100 million on a software project to help convert the banking system from total state control. Oracle, Dell, Compaq, Hewlett-Packard, and numerous European companies have looked into this and other opportunities.

Oracle was one of the first companies in after the war ended, "when the windows had no glass," Dzoic says.

The information technology business in Bosnia is not exactly taking off at anything resembling warp speed, of course. The entire country attracted only $160 million in direct foreign investment from 1996 to 1999. That's owing to factors beyond political instability—such as corruption, poverty, and the lack of a countrywide IT strategy. Bosnia will have to overcome these issues before it can be more than just a potential market.

Which computer, sir?

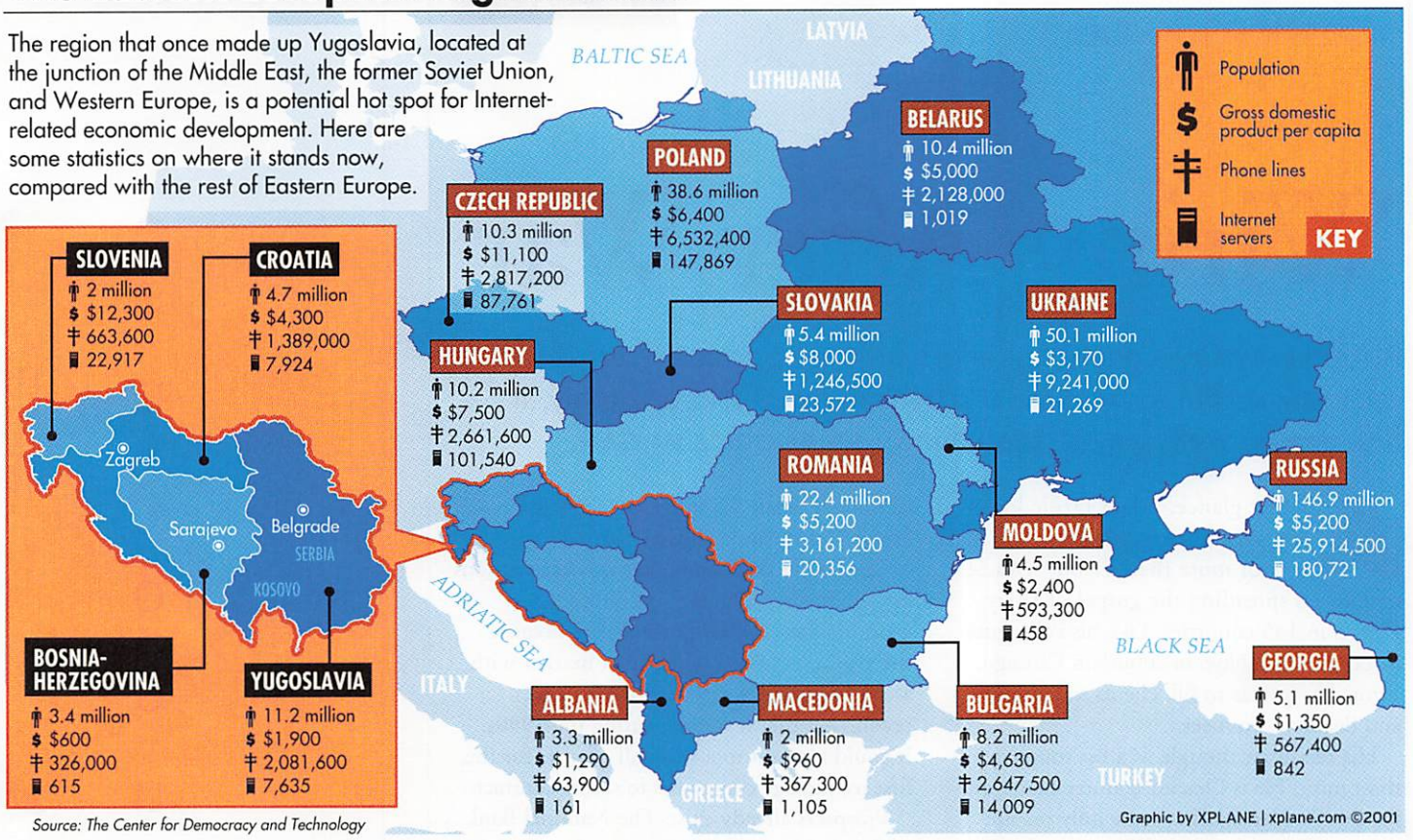
Laying fiber-optic cable, for example, was not on the country's list of economic priorities

e procurement

UNISYS
www.aheadforebusiness.com
We have a head for e-business

The Eastern European Digital Divide

The region that once made up Yugoslavia, located at the junction of the Middle East, the former Soviet Union, and Western Europe, is a potential hot spot for Internet-related economic development. Here are some statistics on where it stands now, compared with the rest of Eastern Europe.



Source: The Center for Democracy and Technology

when it considered how to appropriate $5.1 billion in post-war relief from the World Bank, the U.S. Agency for International Development, and other organizations. Efforts to eliminate hunger and poverty took priority.

"There is not one single organization here that is focused on building the infrastructure that technology will exist on," says Michael Byrnes, a former investment banker who came to Bosnia-Herzegovina three years ago and now works as an IT consultant for the United Nations Development Programme in Sarajevo. "They're saying 'OK, great, put in a long-distance learning program.' And I ask, 'On which computer, sir?'"

International aid did bring about 20,000 computers into the country. Yet Byrnes estimates that full IT integration, which includes fiber optics, data lines, systems, and technical training, will cost around $2 billion.

www.undp.com

"The computers here are all stand-alone PCs that [people] are playing games on, or writing a paper, or making a spreadsheet," says Byrnes. "But they're not talking to each other." While Bosnia boasts more than 10 Internet service providers, the number of Internet users stands at just 15,000.

The development community, led by the U.N. Development Programme, is launching several initiatives to expand IT systems and create awareness of the Internet's potential. Forthcoming projects include the opening of Internet cafes; the launch of a mobile IT fleet that includes 10 buses equipped with network servers, terminals, software, and Internet instructors; and the beefing-up of links between schools, institutes, and universities.

It's a start. But many say Bosnia's leadership is unable to grasp the opportunity that IT development presents. "Most of our decision-makers are older people who can't catch up with new time, new technologies, and the Internet culture," says Vladimir Lepusina, executive editor of INFO magazine. "They can't feel what young people want, and don't know the ways to make this country modern."

Pockets of corruption

Bosnia is also hampered by old-style corruption. Results of an audit last year by the Office of the High Representatives revealed that local Bosnians, Serbs, and Muslims have embezzled more than $1 billion in foreign assistance since 1995. Shortly after the results were made public, the U.S. Treasury and the U.S. State Department shut down a program to help privatize the country's state-run agencies, an effort run by PricewaterhouseCoopers.

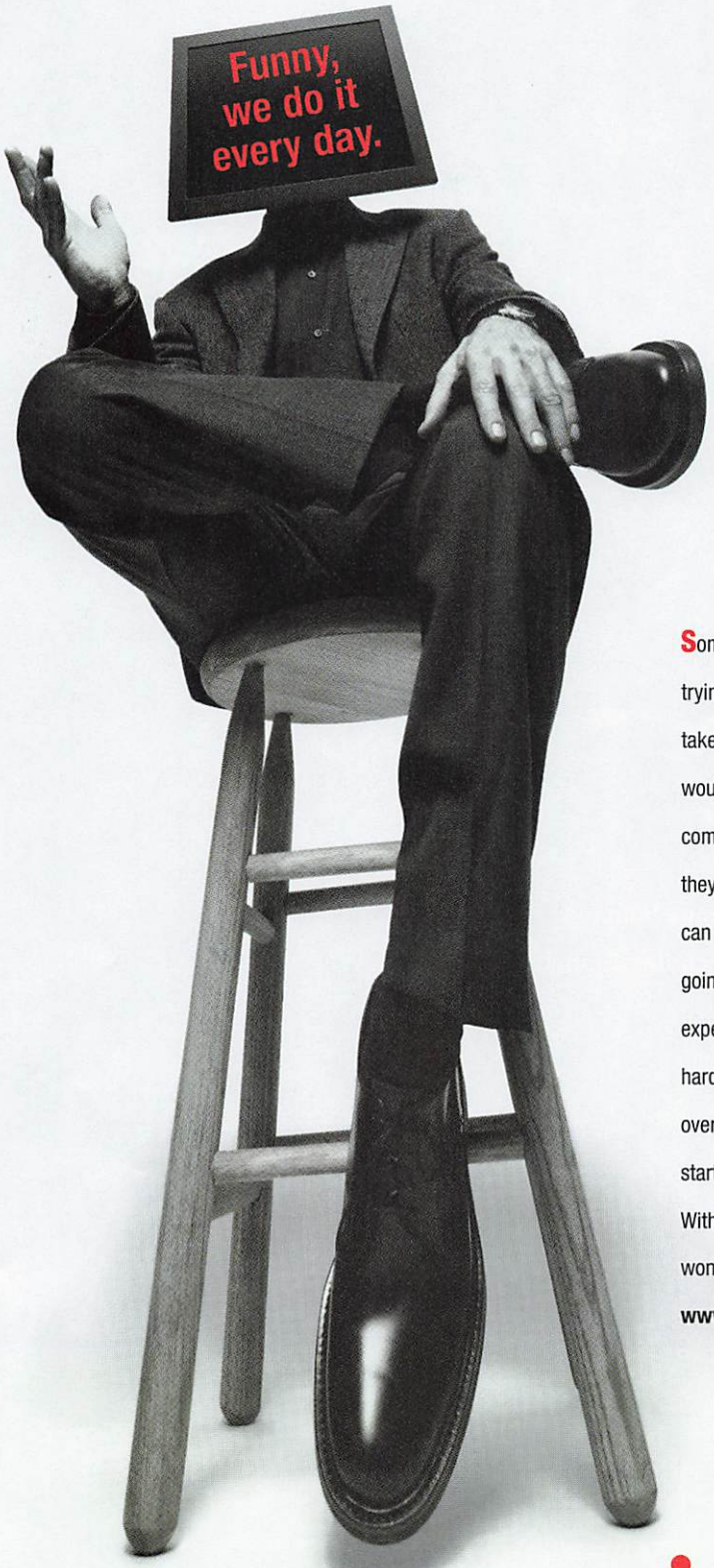
Jeffrey Fanning is an American who has been in Bosnia since 1996, operating a business incubator for Western firms. He says the standard of living has indeed plummeted in the past five years. "The only explanation for this situation that I can give is that those in power have been lining their pockets with gold," he says. "Not only for today, but for future family generations. They are robbing those masses that can least afford it."

Turning at least one aspect of Bosnia's corruption factor into an opportunity is The Santa Cruz Operation (SCO), the California provider of Unix systems. This

www.sco.com

spring, SCO and Germany's Siemens plan to launch a new system to track customs payments in Bosnia. The system, which SCO touts as the largest informatics project ever in Bosnia-Herzegovina, is intended to undermine war-time profiteers who have

They say, in e-business, it takes forever to unify the past with the future.



Some e-business consultants will tell you trying to integrate your legacy systems takes too long and costs too much. They would have you scrap what exists and commit to whatever vision of the future they're selling that day. Unisys people can unify what you have with what you're going to need, using our decades of experience, ingenuity, and plain old hard work. And we do it every day, in over 100 countries. Today is the day to start unifying your past with the future. With Unisys people there to help, it won't take forever. Visit our website at **www.aheadforebusiness.com.**

UNISYS www.aheadforebusiness.com

We have a head for e-business.

© 2001 Unisys Corporation. Unisys is a registered trademark of Unisys Corporation.

They have Houston.

You have Commerce One Global Services.

AN E-MARKETPLACE is a complicated venture. To do it right, you're going to need plenty of support. That's why you have Commerce One® Global Services. With thousands of e-business experts globally, we are the world's largest provider of e-marketplace solutions. We deliver on business strategy, creative design, interactive marketing, technology integration, customer operations, and everything in between. Your mission is our mission. Visit commerceone.com/emarketplace6 or call 877-581-2400.

COMMERCE ONE®

MANY MARKETS. ONE SOURCE.™

© 2000 Commerce One, Inc.

siphoned off an estimated $500 million in cigarette duties alone, according to Greg Bogochwalski, SCO's regional director for Eastern Europe and Central Asia.

The project will be a technological feat, according to Bogochwalski. "In one single system, you need to be able to combine not only three different languages—Croatian, Bosnian, and Serb," he says, "but you also need to combine two different alphabets—the Cyrillic alphabet used by the Serbs and the Latin-based alphabet used by the Croats and the Bosnians."

SCO Eastern European sales totaled $1.5 million in last year's third quarter.

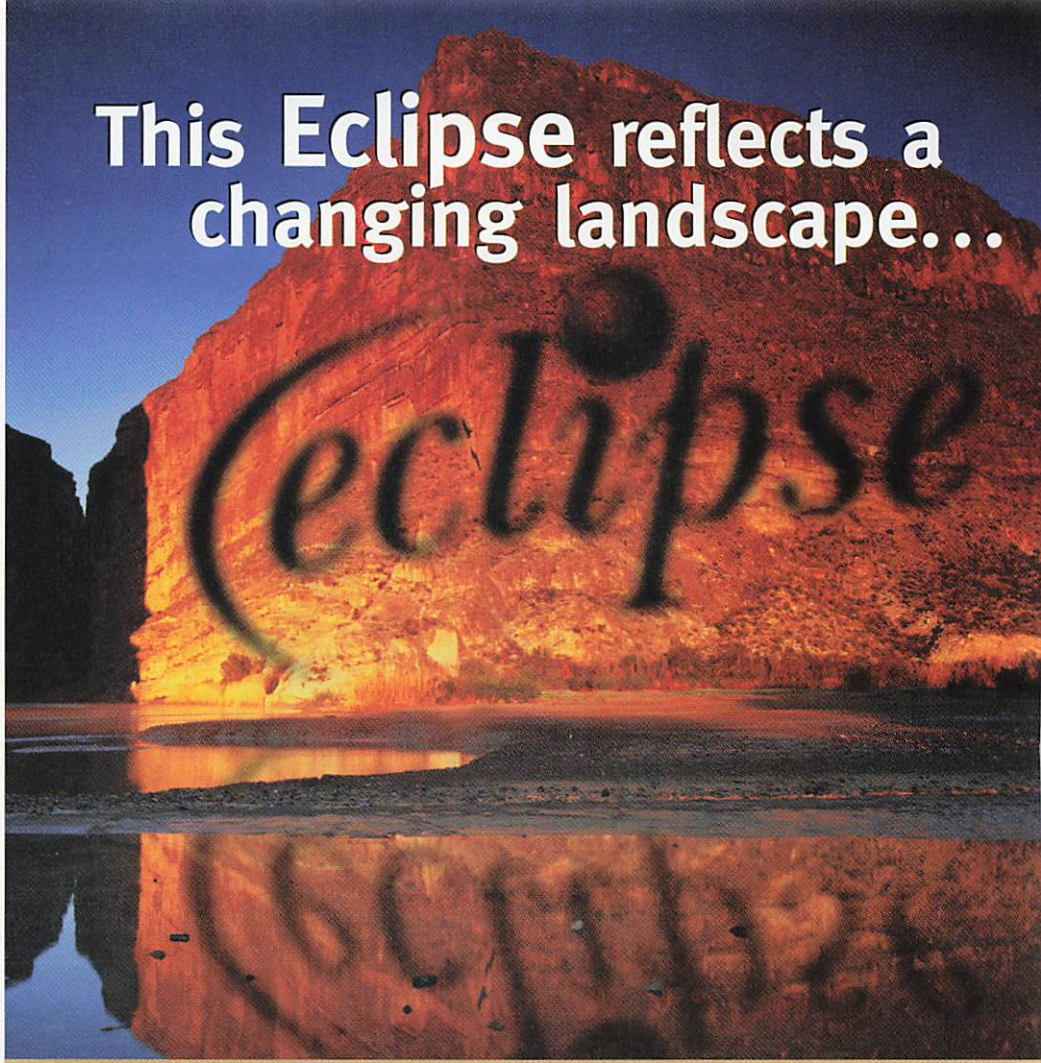
Philanthropy and training

Some technology companies have moved into Bosnia with efforts that are part business, part philanthropy. Networking giant Cisco Systems has initiated what it calls "IT Training Academies"—facilities for training Bosnians to work in the IT sector. It has already established locations in Mostar, southeast of Sarajevo, and plans to develop others in Sarajevo, Tuzla, Zenica, and Banja Luka. Unisys may partner with Cisco in the venture, and the World Bank has established a program to implement learning centers throughout the region.

Projects such as this, says SCO's Bogochwalski, show that business can be done in places such as Bosnia-Herzegovina.

Adds Byrnes, the consultant to the United Nations, "What Bosnia could very well be is a test bed for many of these manufacturers and high-tech companies. [Financier] George Soros has often said that the Balkans, and in particular Bosnia, could be a free-trade zone. The international community and the Bosnians need to get around the same table and decide how are we going to become that."■

BEATRICE HOGAN (BEAHOGAN@AOL.COM) IS A FREELANCE WRITER BASED IN NEW YORK.



Now you can harness the power of content management to make your Web site what your visitors want it to be. With Eclipse from Chrystal Software, you can deliver real-time content targeted to specific users.

- Personalized Web content made easy.
- Take advantage of XML to manage content at a granular level, or import content from a variety of other formats.
- Deliver content to a variety of output devices.
- Optimize distance learning sites and knowledgebases with interactive personalized content.

To see how you can expand your Web content vision, look at this Eclipse:

Download a narrated Eclipse demo,

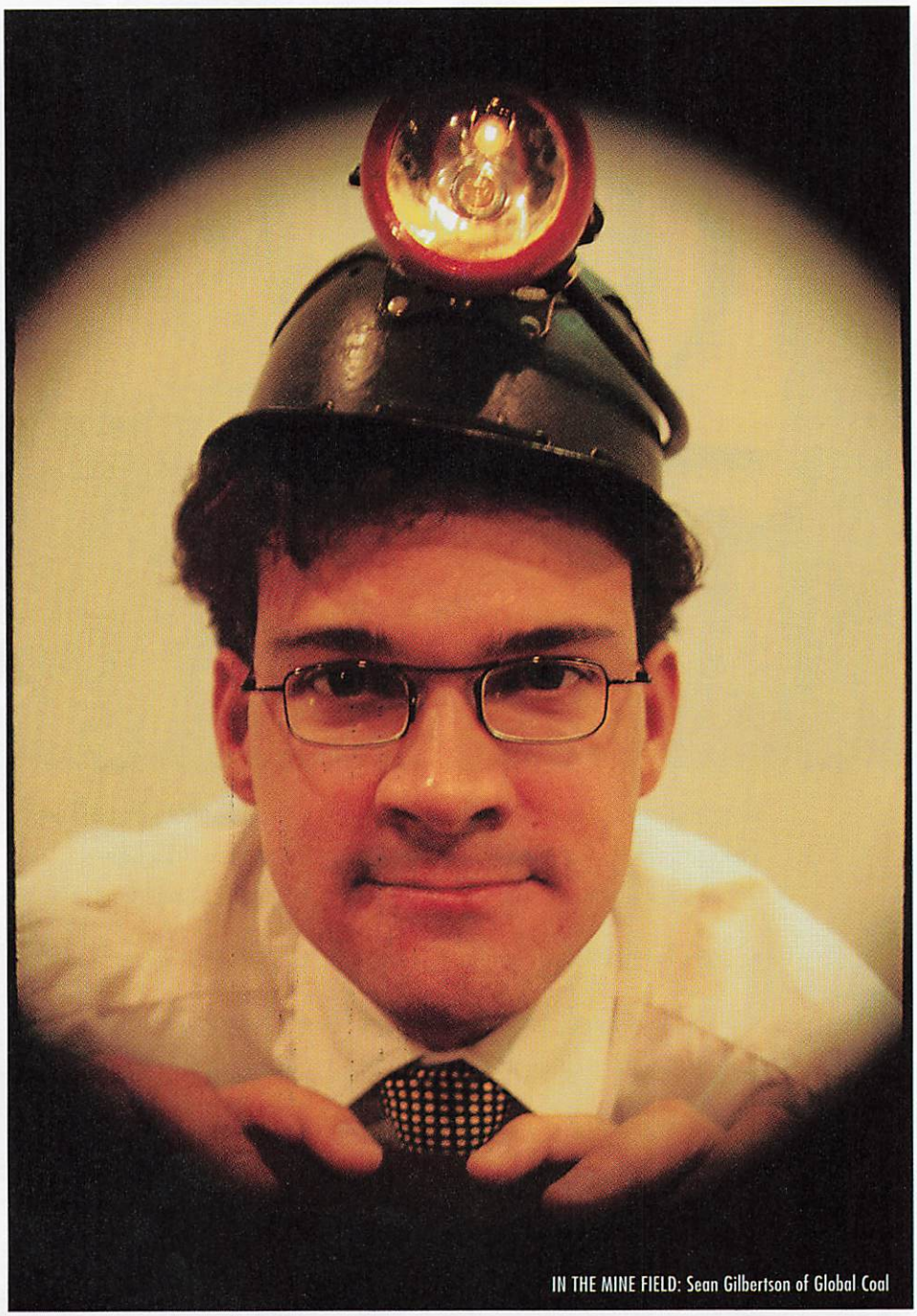
Take a product tour at www.chrystal.com

Or call 858-676-7700!

CHRYSTAL *software*

Change • Adapt • Expand

www.chrystal.com



IN THE MINE FIELD: Sean Gilbertson of Global Coal

PHOTOS: SHONA WONG

The Coal Rush

Coal is experiencing quite a comeback. An Australian company hopes to capitalize on the growth with a new online futures trading market. **BY STEWART TAGGART**

In Australia's Hunter Valley, mechanical shovels claw piles of coal from open pit mines and load them onto freight cars. Once loaded with cargo, the trains snake toward the Pacific coast port of Newcastle, the world's busiest coal export area. The coal is eventually put onto bulk cargo ships to be burned—months later—in an Asian or European electricity plant.

If Sean Gilbertson has his way, these grimy rail yards in Newcastle and the coal shipped through them could form the core of a new Internet-based market—joining energy siblings such as oil, gas, and electricity in moving trading more deeply onto the Web.

A onetime mining engineer and banker who is as handy with dynamite as he is with spreadsheets, the 28-year-old Gilbertson is looking to light a fire under the nearly $10 billion annual global market in thermal coal. His aim is to do it online through Global Coal—an industry consortia business-to-business ecommerce site.

To him, the payoff won't lie in greasing the wheels of one-time deals between buyers and sellers of heat producing carbon. Rather, it will lie in Internet-based futures trading. Coal will serve as the beta platform to test the concept. His larger aim will be to introduce standardized forward contracts to the industry.

"Oil and gas already have very efficient over-the-counter [i.e. bilateral] and hedge risk markets," Gilbertson says. "This gives us an opportunity to bring coal under the same roof, but on the Internet."

Forward contracts
Under this model, buyers and sellers post bid and ask prices, tonnage, and delivery dates for a variety of coal products. Business may be conducted in months, quarters, or years, anywhere from immediate delivery to whatever period forward is agreed upon.

Before any of this can happen, however, Gilbertson must prove the idea works by blasting through a series of industry obstacles as tough as a coal mine's rock face.

Three hurdles

One of the first issues facing Global Coal is that of liquidity: Will buyers come? What buyer will want to transact on a platform built for and operated on behalf of sellers?

THE TRUTH WILL SET YOU FREE.

The truth of voice access to enterprise information. The truth of mobile e-business that's actually useful. The truth of a technology that honestly works and lets you check everything from pricing and inventory to order status and more from any phone, anywhere. We're extending enterprises by word of mouth. www.webversa.com

WEBVERSA™
enterprise everywhere.™

Needless to say, Global Coal needs to gain buyers' trust that the playing field isn't tilted against them.

For his part, Gilbertson believes Global Coal's future pricing benchmarks derived from its forward contracts will keep risk managers coming back through the modem ports.

"In the past, if you wanted to get a benchmark of coal prices for various future months, you'd need to call around to all the suppliers and get their prices," says Gilbertson. "By the time you were done, prices would have changed."

By posting prices stretching out across several years in a series of standardized contracts, users will derive more pricing information about future price trends. And with the largest mining companies in the industry involved, a ready supply of coal is assured, he says.

Then there is the tyranny of the status quo. The old trading regime has survived for nearly 100 years. Why change now? The burden of proof will be on Global Coal. Gilbertson says Global Coal will have an independent management structure and seek to include major buyers as shareholders. Will it be enough to satisfy buyers?

A third obstacle—the regulatory system—also poses tricky obstacles. That's because Global Coal is encroaching onto turf traditionally held by existing brick-and-mortar futures markets. These are places with fixed addresses, easy-to-find executives, and well-established regulatory regimes. Online futures trading clearly upsets this cozy world, and regulators admit to being slightly flummoxed.

Fast Facts

■ **Global Coal** is funded through a $10 million investment from four of the largest mining companies in the coal industry—Anglo American, Billiton, Glencore International AG, and Rio Tinto. Together, they supply a large percentage of the world's seaborne coal. Also in on the action is Accel-KKR, an Internet business development venture between Silicon Valley venture capital firm Accel Partners and private equity investor Kohlberg Kravis Roberts & Co.

"This gives us the opportunity to bring coal under the same roof, but on the Internet."

"We've got a fairly old regulatory structure in which anyone offering futures contracts for trading is supposed to come to us to be designated, and flowing from that is a series of regulatory requirements presuming a brick-and-mortar location," says David Van Wagner, associate director of trading and markets at the U.S. Commodity Futures Trading Commission (CFTC), the futures market regulator in Washington.

"We expect we'll be seeing more of these exchanges that don't have any forerunner in existing futures markets," he says. "We'll have to look at them on a case-by-case basis."

www.cftc.gov

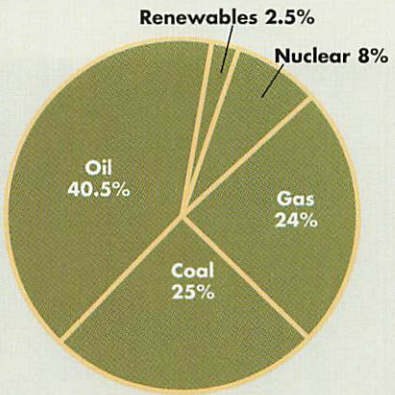
Last July, the CFTC authorized the Merchants' Exchange of St. Louis to offer electronic trading in deliverable Illinois Waterway and St. Louis Harbor barge freight futures contracts. That contract was the first approved by the CFTC that had no pre-existing brick-and-mortar traded counterpart.

The key trigger for the CFTC's oversight, Van Wagner says, hinges upon whether contracts are settled in cash. If a transaction terminates in delivery of an underlying commodity, the transaction platform can be deemed an ecommerce market. If transactions terminate in cash payments, the platform may be deemed a futures market by the CFTC.

And if a site is deemed to be a futures market, the CFTC will examine other things as well. These include how vulnerable the overall market may be to manipulation, and what safeguards are needed to limit losses by unsophisticated users, Van Wagner says.■

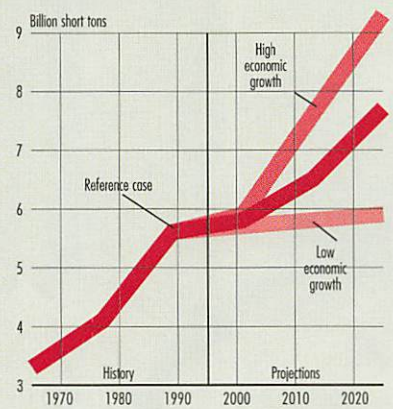
STEWART TAGGART (STAGGART@NSW.BIGPOND.NET.AU) IS A CONTRIBUTING WRITER FOR *BUSINESS 2.0*.

In 1999, coal accounted for 25 percent of the world's energy consumption...



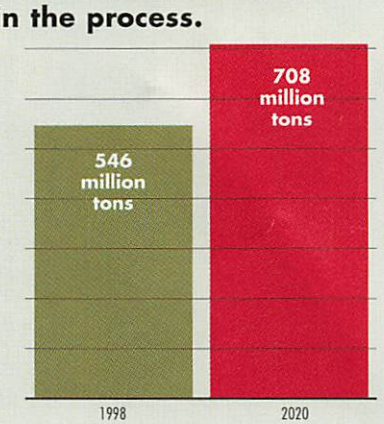
Source: World Coal Institute, 2000

...and that percentage is expected to rise for the next 20 years...



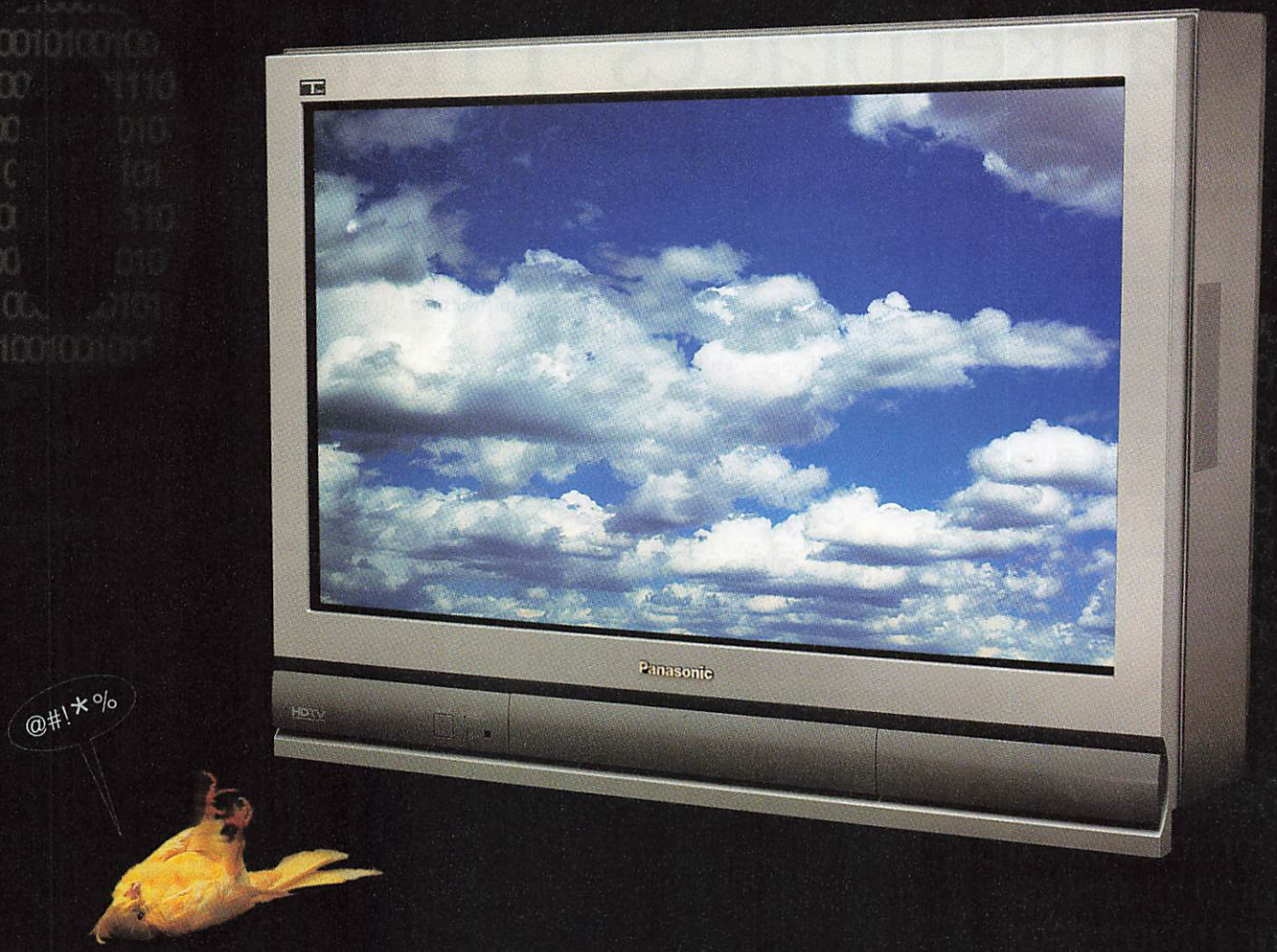
Source: U.S. Department of Energy, 2000

...greatly increasing the world's coal trade in the process.



Source: U.S. Department of Energy, 2000

HIGH DEFINITION TELEVISION



Warning: objects aren't as real as they appear.

PUREFLAT [tau]

Tau PureFlat TV / HDTV compatible / 16:9 wide screen / Just A Bit Of Magic

Internet Keyword: Panasonic HDTV panasonic.com/hdtv or 1-800-211-PANA
(No birds were hurt in the making of this ad.)

Picture simulated. Set-top decoder box required to view HDTV programs.
An over the air antenna may also be required. As of this writing, standards for digital TV cable connectivity have not been finalized. Set-top decoder may not be capable of working with your cable system.

Panasonic
just slightly ahead of our time

Marketplaces That Work

Business-to-business exchanges find it's not enough just to match buyers and sellers. To survive, they also have to offer industry-specific services. **BY KIM CROSS**

Early last year, the pundits proclaimed the online business-to-business marketplace the new business-model star. The pundits were right, sort of. The model became popular—too popular. With more than 1,000 different exchanges online, the field got way too crowded, way too fast. More than two dozen marketplaces vied for the chemicals and plastics industry alone. With that many players, the audience for each was divvied up fast.

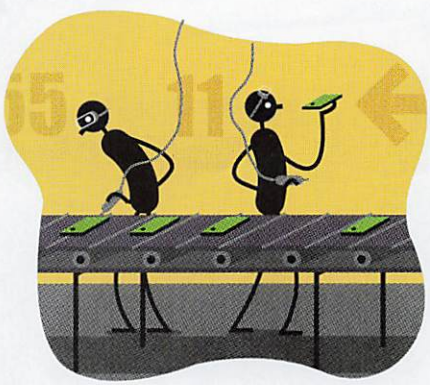
Marketplace sites that failed to drive enough transactions were forced to shut down or switch business models. SyQuest Technology, an exchange for lab equipment, changed its focus to building private exchanges, while Commerx PlasticsNet repositioned itself as a software vendor for the plastics industry.

Some sites, such as Promedix, hSupply, and RedLadder.com, simply died. Even Chemdex, one of the better-known Net markets, was stricken by the same wasting disease: not enough transactions.

"Matchmaking is not enough," says Tim Clark, a Jupiter Research analyst. "If transactions are all you're going to do, you have to do a whole lot of them. But there are other things companies value more."

The key, many say, is to combine a marketplace with an industry-specific service. Below are four companies that pinpointed an industry's particular problems—and figured out creative ways to solve them.

Their secret: knowing the industry inside and out.



PartMiner

www.partminer.com

Industry: Electronic components
Problem: Hard-to-find parts
Service: A team that hunts down the few parts not found in the free database

PartMiner made a bold move when it reinvented itself as a Net exchange in 1999. Formerly Microcom Technologies, an offline electronic parts broker founded six years earlier, the company plunked down $100 million of its stock to buy a database. It wasn't just any old database: It was CAPS Xpert, the chip industry's only comprehensive listing of 13 million parts, for which users were paying access fees as high as $7,000 per seat. PartMiner made access free.

Slamming the door on hundreds of thousands of dollars of guaranteed revenue was a risky move. But in doing so, PartMiner ensured one crucial thing: that people would try the service.

"We've never charged a penny for transactions," says Bill Barron, chief marketing officer. The company makes money on the 2 percent of users who don't find the part they seek from the shopping agent, and instead opt to use the PartMiner Direct shopping service, which sends out a team of professional buyers to scour the globe for a rare or hard-to-find component. PartMiner makes a 30 percent margin on this service.

So far, the company has thrived on the single revenue stream. Revenues rose 69 percent to $76 million in 1999, and Barron expects 2000 sales to be "significantly greater." PartMiner outsources its database, shopping service, and exchange to private marketplaces run by companies such as Dell Computer and Celestica, as well as industry-sponsored marketplaces such as e2Open.

Gofish.com

Industry: Seafood processing
Problem: Risk of bad credit
Service: Up-to-date credit reporting and insurance

The $350 billion global seafood industry is plagued not only by the risk of bad fish, but bad creditors. Reducing that risk with industry-wide credit reporting has been Gofish's business for 16 years. Founded on the banks of Maine in 1985 as Seafax, the company sold credit reports and insurance to fleets and fishermen wary of buyers who never paid.

In 1998, the company decided to take its business—and its 1,100 loyal customers—online by adding an online seafood exchange. The new company was aptly

Copyright ©2001 3Com Corporation. All rights reserved. 3Com is a registered trademark and the 3Com logo is a trademark of 3Com Corporation.

"You'll need to open several firewall ports and modify the packet filtering on the 4500 router using IOS so your extranets can communicate with our e-servers over the 6 meg fractional T3 line...

Still with me?"

Simpler Networking, anyone?

3com

Simple sets you free.

3Com's New Era of Business Networking

Roughly translated: Talk to 3Com about the new, easy-to-understand networking products. Everything's completely compatible, from SuperFast Ethernet Gigabit connections to Internet firewall security. All engineered to give your networking the boost it needs to exploit the Internet to its fullest. For more information, click 3Com.com or talk to your 3Com reseller. Home. Office. Beyond.

named Gofish.com.

The exchange helps fisheries sell their perishable catch faster than ever, aided by access to seafood prices that change by the minute. Seafax, now a division of Gofish.com, keeps a database of 50,000 credit files on industry members—most of whom they have tracked for years. New members must pass tough credit checks.

The company says it nets most of its income by selling credit reports, but founder and CEO Neal Workman expects that transaction fees will eventually catch up. He attributes the company's success to the fact that "we've known most trading partners for years."

Among the 450 companies using the exchange are Wal-Mart and SeafoodAlliance, a group of seafood processors and distributors that plans to funnel at least some of its $5 billion in combined annual sales through the exchange.

What helped reel in such a catch? The guarantee that each deal was sound. Of the $100 million in annualized transactions on Gofish last year (as of the fourth quarter), not a single one was rotten.

DAT Services www.dat.com

Industry: Trucking
Problem: Trucks returning empty
Service: Find return loads for drivers

DAT Services' humble roots lie in a Portland, Ore., truck stop called Jubitz. Truck drivers passing through the truck stop often looked for loads to fill their empty rigs. They found notices on a bulletin board, scribbled on a sticky note, or by listening to announcements over the PA system. The approach was low-tech, but it helped solve a big problem: As many as 15 percent of all trucks on the road drive empty, and that waste adds up to billions of dollars.

In 1997, Jubitz took to the Web, creating a network of available loads and drivers. Carriers, dispatchers, shippers, and drivers could then access that database online. If they didn't have Net access, they could scan airport-style monitors at 1,200 truck stops nationwide. Or, they could just call, as nearly 3,000 folks choose to do every day.

The problem was, while users could find a lead online—paying a subscription fee and a small transaction fee each time they were successful—they had to settle the deal offline. So the company launched an online exchange called DATconexus in October 2000. It's a free exchange for now, but DAT will eventually charge fees. The company makes 75 percent of its revenues through subscription fees, with the remainder derived from fees for finding a lead on the database. Depending on what customers demand, the company will either charge subscription or transaction fees.

The company serves 17,000 customers who funnel 100,000 shipments through the exchange each day. "This isn't new to us," says Susan Little, VP of sales and marketing for DAT. "It's just an extension of what we do."

Converge
www.converge.com

Industry: Electronic components
Problem: High-tech manufacturing
Service: Online collaborative design process

Right from the drawing board, Converge decided to build its business model around mission-critical services for the high-tech manufacturing industry—instead of focusing on transactions. The 15 industry giants that back the marketplace—including Hewlett-Packard, Compaq Computer, and Gateway—insisted that the greatest value would lie in services that streamlined core business processes.

Converge helps companies bundle orders and ship parts, work out a financing plan, or design products more efficiently. Its most ambitious service: a platform that helps engineers, suppliers, manufacturers, and customers collaborate on design. These groups typically clash over conflicting goals—performance, cost, or availability of parts.

The program, currently in pilot stage, will allow folks from every focus to give their input early on, to help prevent the domino effect that a single tweak can have on the design process.

In an online workspace, hundreds of participants can react to unexpected changes, such as a part shortage that prompts a redesign.

The company estimates the service will help get a product to market 10 percent faster and reduce costs, of which 80 percent are incurred during the design phase.

The best part: Once everyone has drawn up a bill of materials, what better place to buy them than the exchange that is just a click away?■

KIM CROSS (KIM@BUSINESS2.COM) IS A STAFF WRITER FOR *BUSINESS 2.0*.

PRINTED BY QUAD/GRAPHICS, SUSSEX, WI. ZOOT SCHIEFFELIN & SOMERSET CO., NEW YORK, N.Y.

A SIMPLE IDEA CAN CHANGE THE WORLD. WHATEVER YOUR DREAM, KEEP WALKING™

SUBMIT
YOUR IDEA TO THE KEEP WALKING FUND FOR THE OPPORTUNITY TO EARN FUNDING FOR YOUR DREAM.

Johnnie Walker

VISIT KEEPWALKING.COM

EBUSINESS

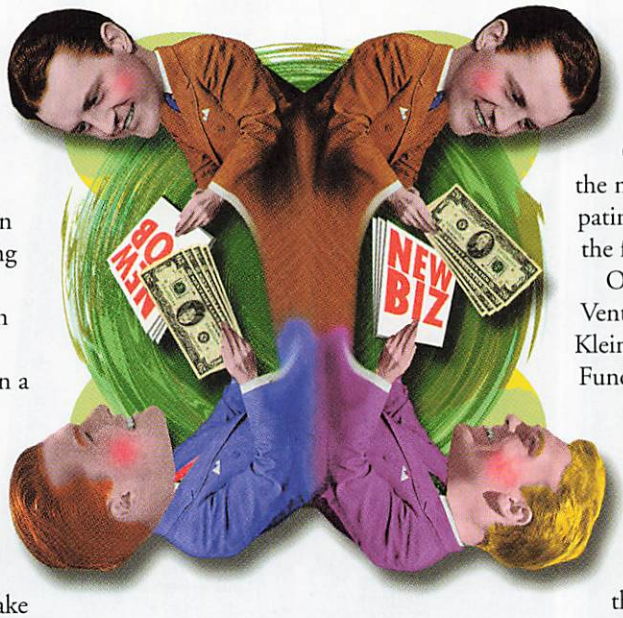
Wanted: CEOs and IPOs

Executive recruiting firms launch venture capital funds, claiming they have the ultimate insider information: how a company actually runs. **BY CONSTANCE LOIZOS**

Jeff Christian, founder and chairman of global executive recruiting firm Christian & Timbers, has as much nervous energy as a 10-year-old hopped up on Easter candy. Bounding into his Cleveland office, Christian tries out several club chairs before settling into one just long enough to eat some Chinese takeout that has been resting on his desk since lunchtime, six hours ago.

www.ctnet.com

If Christian comes across as more than a little manic, it is partly because he is gearing up to do more deal-making than ever. Christian & Timbers recently entered the private equity game, rolling out a $44 million venture capital fund.



It is a development that could not make more sense, boasts Christian. "Because companies hire us to fix what's wrong, all of the information we get is unfiltered, giving us an opportunity to see into companies in a way that even VCs don't traditionally enjoy."

Christian is not the only headhunter to think he is positioned perfectly to broker more sophisticated financial agreements with his client companies. Heidrick & Struggles International, for example, which holds shares in many of its 500 clients, plans later this year to launch an employee-sponsored venture fund in the $50 million range. Last year, search firm Spencer Stuart launched two employee-sponsored venture funds totaling $4 million.

More firms appear likely to jump into the fray. Says Tuck Rickards, head of the worldwide Internet practice at recruiting firm Russell Reynolds Associates, "We're taking a proactive approach to equity as part of our fees for the moment," equity that then gets pooled and managed internally. "But I think we're open to exploring different alternatives."

www.russreyn.com

One of the few recruitment firms still shying away from launching a fund is Manhattan-based Bishop Partners. Says founder Susan Bishop, "We've considered creating a fund, but with the market the way it is, we've been very cautious about it. I'd rather not take any undue risk right now. [However,] I do think we have a unique point of view that VCs don't have, which is of a company's culture and what makes it tick. It really gives search firms a leg up."

That is certainly Christian's thinking. His company's new venture fund, which launches under the name C&T Access Ventures (for "access" to human capital, naturally), is only the first of a number of funds Christian intends to launch every 12 to 18 months if the previous offerings are successful. Each will pump between $250,000 and $2 million into startups that are primarily focused on broadband, networking infrastructure, security, software, and wireless communications.

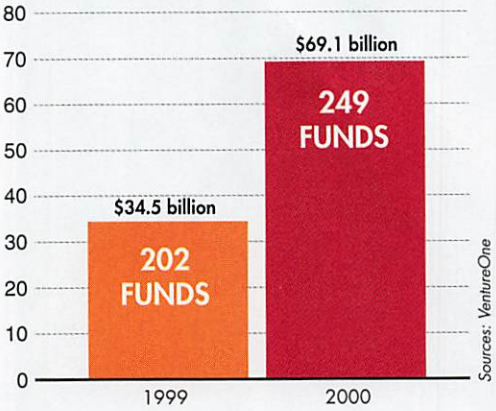
The bulk of C&T Access Ventures' funding has come from about 20 of Christian & Timbers' own managing partners, plus angel investors such as Eric Harslem, CTO of Dell Labs; and Tim Price, former CEO of MCI WorldCom Communications—who also serve on the new fund's advisory board. Also participating are companies that have contracted the firm's services in the past.

Other contributors to the Access Ventures fund are venture capital firms Kleiner Perkins Caufield & Byers; Mayfield Fund; Flatiron Partners; Atlas Venture; and OffRoad Capital, with which Christian & Timbers works closely to recruit executives. Like Heidrick & Struggles and Spencer Stuart, Christian & Timbers will piggyback off a lot of the VC firms' due diligence, rather than do all of its own.

Christian remains humble when asked to forecast his fund's success: "I may not be a financial guru, but with plenty of money and plenty of ideas to go around, financial capital no longer rules anyway. It's all about being able to tap into a pool of great leaders, and that's just what we intend to continue doing."■

CONSTANCE LOIZOS (C_LOIZOS@EMAIL.MSN.COM) IS A SAN FRANCISCO–BASED WRITER.

VC Funds Doubled in 2000

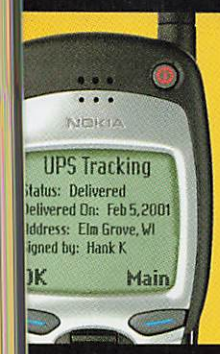


GOOD NEWS

YOU CAN TRACK PACKAGES WITHOUT LEAVING THE MEETING.

BAD NEWS

YOU'D REALLY LIKE TO LEAVE THE MEETING.



Tracking goes mobile. Accessing crucial shipping information no longer means being chained to your PC. Our wireless technology lets you track packages from just about anywhere using a text-messaging or Web-enabled wireless phone, pager, or PDA. Add the ability to calculate shipping costs, confirm transit times, and find the nearest drop-off location, and UPS puts powerful business tools in the palm of your hand. So you'll be free to get up and move around. When the meeting's over, that is. Visit ups.com/wireless

ups

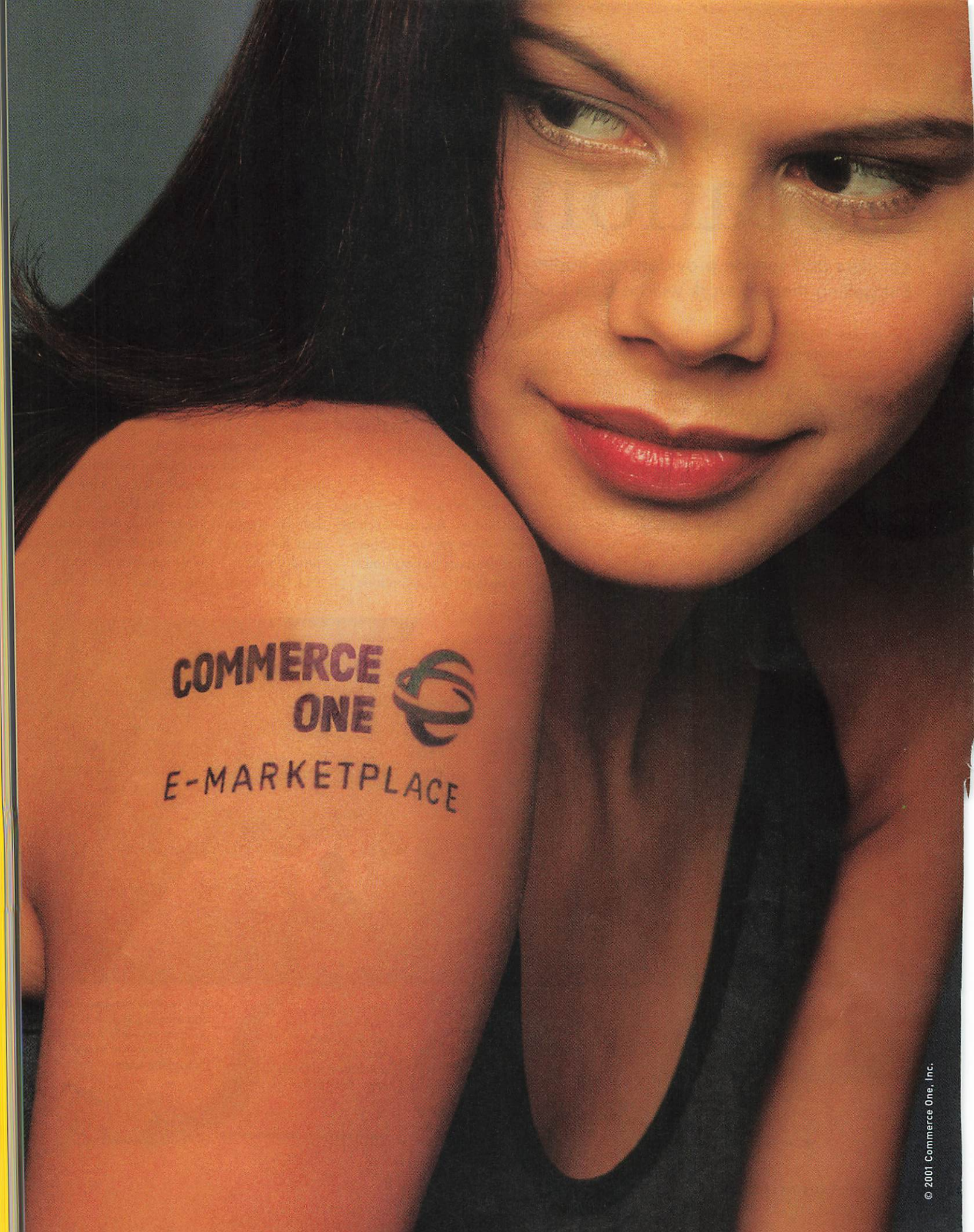
MOVING at the SPEED of BUSINESS®

©2001 United Parcel Service of America, Inc. NOKIA and 7100 are registered trademarks or trademarks of Nokia Corporation. All Rights Reserved.

E-MARKETPLACES ARE showing up everywhere. And since not all e-marketplaces are created equal, there's a way to tell which ones are powered by the industry leader. When you see this symbol, you know you're looking at an e-marketplace built by the company that pioneered open XML architecture, set the standard for the entire industry, and created the world's largest trading community, the Global Trading Web.™ In short, it's the sign of experience. Get experience. Get it right. Visit commerceone.com/tattoo or call 877-261-8516.

COMMERCE ONE.®

MANY MARKETS. ONE SOURCE.™



© 2001 Commerce One, Inc.

BREAKTHROUGH

Location Disorder

Retailers and service providers are hoping "location-based services" will perk up business. But getting them to work will be a lot tougher than anyone expected. **BY ROBERT POE**

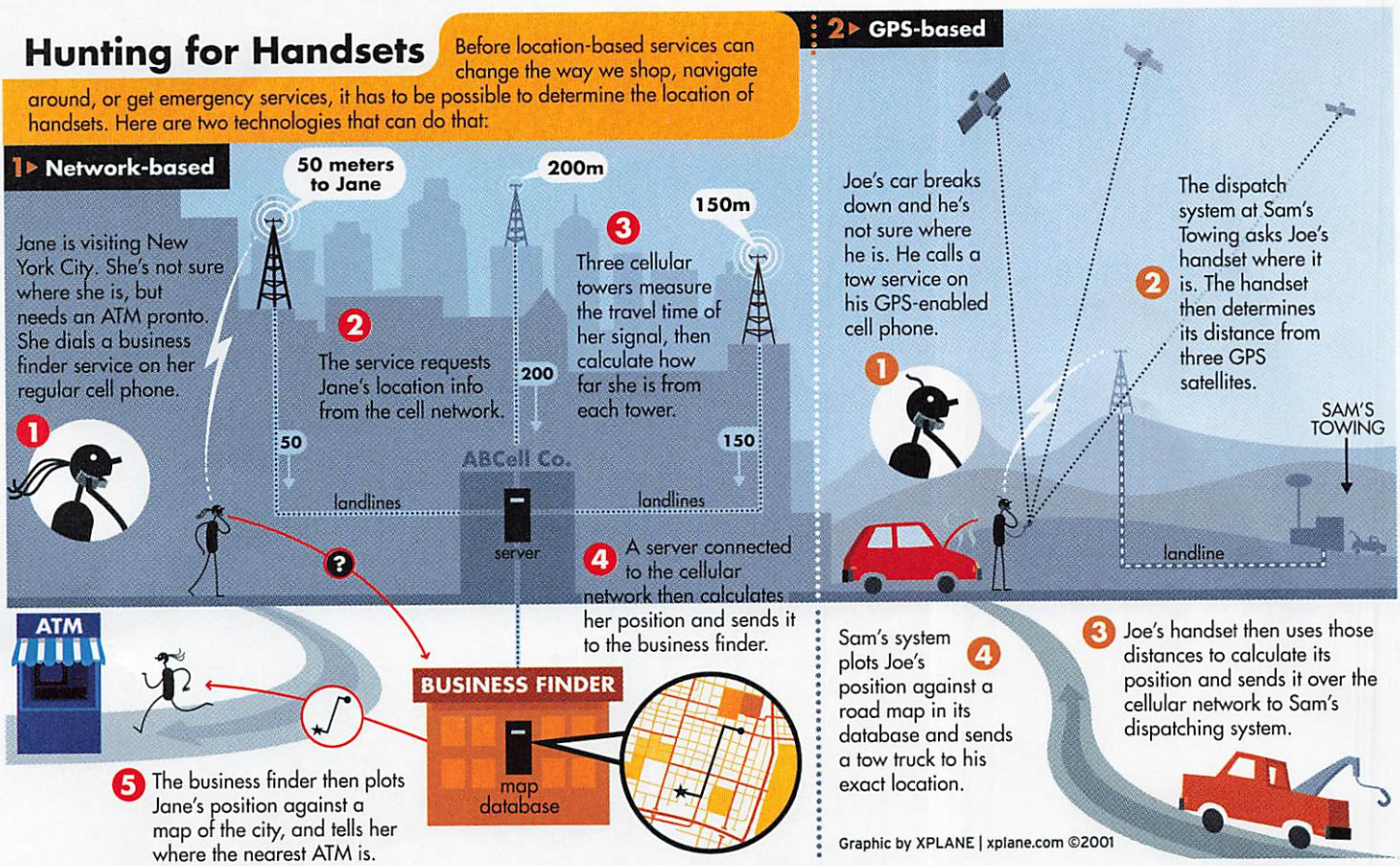
Imagine this scene: Teenagers cruising past a shopping mall get messages zapped to their cell phones. *Ohmigod!* They park and rush to a department store inside. Platinum cards poised, they snap up designer handbags marked down to $300 just moments earlier.

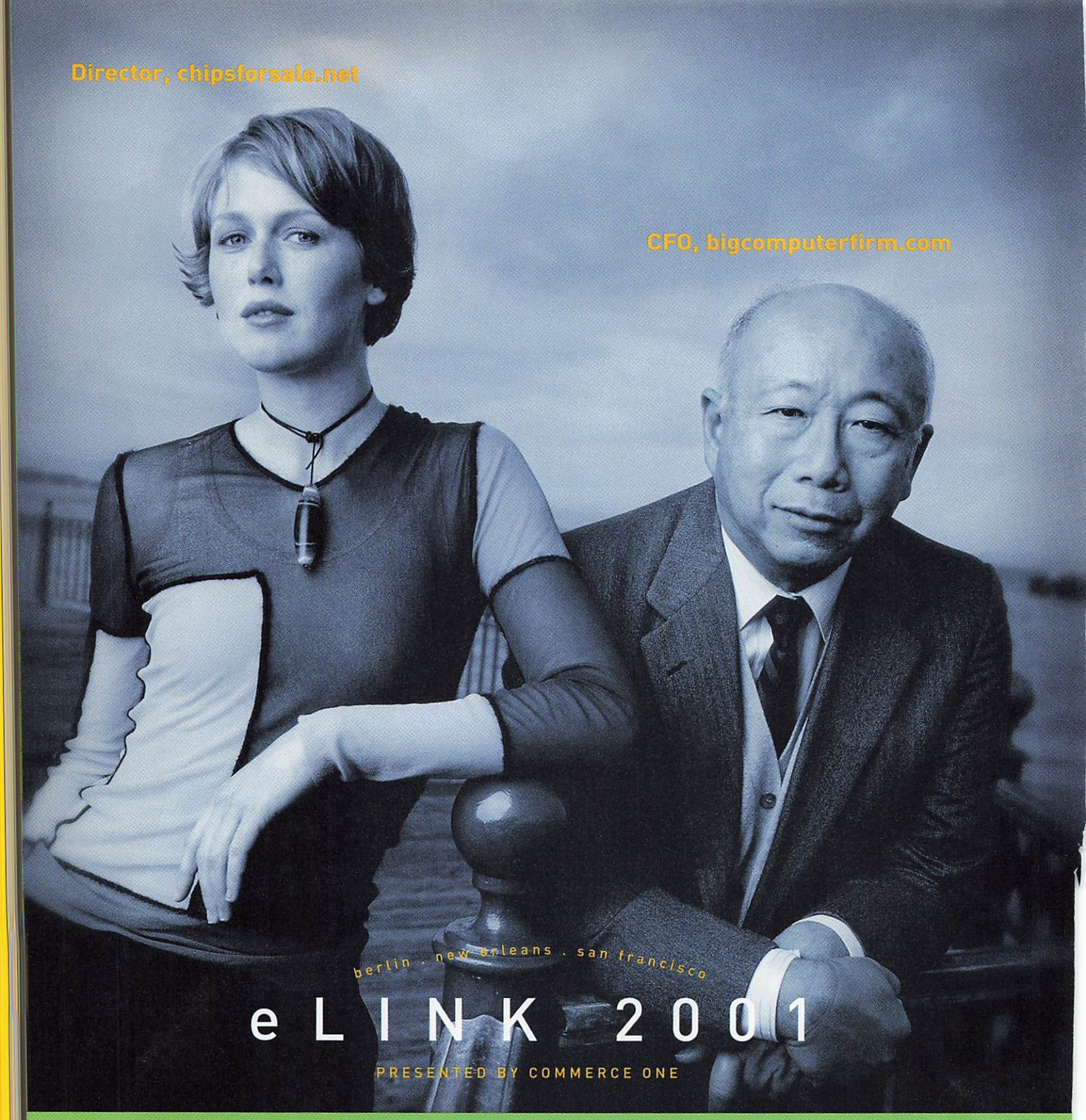
Although today marketers can only dream of such scenarios, eventually they'll be more fact than fiction. In the second half of the year, technology for locating cellular handsets will start to roll out in Asia, Europe, and the United States. But the hype is rolling out faster than the infrastructure. It turns out that making wireless location-based services an everyday tool for consumers, and even businesses, will be trickier than enthusiasts expect. The major enabling technologies each come with trade-offs that are complicating deployment and use. And serious commercial and social issues raise further potential obstacles.

Mixed motives

Localized sales pitches are just the beginning. Services known as business finders, concierge services, or mobile yellow pages could help consumers find restaurants, gas stations, hotels, or ATMs nearest their cell phone. Others could provide location-specific driving directions and traffic reports, or even send navigational maps to graphics-capable wireless devices. And expectations are high for cellular people-finders, which would notify users when friends or potential romantic partners are nearby.

But while the commercial possibilities seem bright, they are not what's driving the technology right now. In the United States, cellular operators are installing it because they have to. An FCC mandate gives them until October 1 to implement enhanced 911 (E911) capabilities, which provide the


Hunting for Handsets
Before location-based services can change the way we shop, navigate around, or get emergency services, it has to be possible to determine the location of handsets. Here are two technologies that can do that:
1▸ Network-based
Jane is visiting New York City. She's not sure where she is, but needs an ATM pronto. She dials a business finder service on her regular cell phone.
1
50 meters to Jane
200m
150m
2
The service requests Jane's location info from the cell network.
3
Three cellular towers measure the travel time of her signal, then calculate how far she is from each tower.
50
200
150
ABCell Co.
landlines
landlines
server
4
A server connected to the cellular network then calculates her position and sends it to the business finder.
ATM
BUSINESS FINDER
map database
5
The business finder then plots Jane's position against a map of the city, and tells her where the nearest ATM is.
2▸ GPS-based
Joe's car breaks down and he's not sure where he is. He calls a tow service on his GPS-enabled cell phone.
1
2
The dispatch system at Sam's Towing asks Joe's handset where it is. The handset then determines its distance from three GPS satellites.
SAM'S TOWING
landline
3
Joe's handset then uses those distances to calculate its position and sends it over the cellular network to Sam's dispatching system.
4
Sam's system plots Joe's position against a road map in its database and sends a tow truck to his exact location.
Graphic by XPLANE | xplane.com ©2001



Building a successful e-marketplace starts with building relationships. That's why we created eLink™ 2001. Three conferences, three opportunities to network with forward-thinking professionals like you and develop your company's e-commerce strategy. Hear from industry experts. Participate in intensive, hands-on workshops. View a showcase of the latest e-commerce products and services. When the chips are on the table, eLink 2001 is the event you can't afford to miss. Visit www.elinkconference.com today.

COMMERCE ONE.

MANY MARKETS. ONE SOURCE.™

Copyright © 2001 Commerce One, Inc. All rights reserved. Commerce One is a registered trademark and eLink and MANY MARKETS. ONE SOURCE. are trademarks of Commerce One, Inc.

obal Sponsors:

ccenture · CAP GEMINI ERNST & YOUNG · COMPAQ · intel · Microsoft · PRICEWATERHOUSECOOPERS · SAP Markets

Media Sponsors:

BUSINESS 2.0 · CIO · darwin · Forbes · The New York Times Expect the World®

It's one Net. Take off.

You can't reach new heights in today's eBusiness world unless you get all your ducks in a row. You need integrated networks that let your employees, partners, suppliers and customers work together. And all their different operating systems, intranets, extranets and the Internet work as one Net. Securely and reliably. That's the strength of Novell's Net services software. It lets existing technology work together. And gives you the power to change your eBusiness as fast as the Net economy. So take off at **www.novell.com**

Novell.
the power to chaNge

© Copyright 2000 Novell, Inc. All rights reserved. Novell is a registered trademark and the power to change is a trademark of Novell, Inc., in the United States and other countries.

locations of cell phones calling the nationwide emergency number.

But it won't be painless, says Clement Driscoll, president of consultancy C.J. Driscoll & Associates. "You will not see a nationwide rollout in October 2001," he predicts.

Part of the problem is lack of a clear business model. "The whole value chain has not been established," notes Greg Turetzky, GPS manager for SiRF Technology, a San Jose, Calif.–based location technology developer.

www.sirf.com

In the longer term, though, the underlying commercial appeal is real. Japan's NTT DoCoMo has offered assisted GPS services, using PDAs connected to cell phones, since last year. And a Canadian company, Cell-Loc, plans to build a 42-city U.S. network that simply locates handsets—without carrying any cellular traffic itself. It will then sell its locating services to any interested buyers.

Interested buyers
Many businesses—cellular carriers and vehicle fleet operators, for example—would benefit from location technology services.

Experiencing technical difficulties

There are two main approaches to tracking wireless handsets—and neither is easy. In one, the network detects the handset's distance and sometimes direction from enhanced cellular base stations, then calculates its position. Verizon Communications plans to use this approach.

In the other, the handset detects how far it is from at least three satellites of the U.S. government-operated global positioning system (GPS). The handset then calculates its own position. Relatively few carriers use a pure GPS approach. More popular are various hybrid solutions, dubbed assisted GPS, which use the network to do part of the calculations for the GPS handset. It may figure out where the satellites are in their orbits, for example, or determine the precise time. A number of carriers, including Sprint PCS, plan to use such hybrid systems. Cingular Wireless plans to use an assisted GPS system in parts of its network and a network-based approach in other parts.

Each approach has significant drawbacks. Network-based tracking can be difficult in places, such as along highways, where base stations are few and far between. It also requires significant hardware upgrades to existing base stations. GPS-based calculation, on the other hand, can be relatively slow—taking two to three minutes just to acquire satellite signals—because it requires handsets to do more of the processing. That also increases their cost and power consumption. GPS signals may also have trouble getting through in cities with lots of tall buildings.

The hybrid approach decreases the burden on handsets and requires less investment in new equipment than purely network-based systems. But it also shares some of the disadvantages of both approaches, such as increased handset processing requirements and additional network costs.

Compatibility is another complicating factor. If operators choose the network-based approach, their handsets won't deliver location information when used in conjunction with GPS or assisted GPS networks.

It all adds up to serious uncertainty. Some U.S. operators, including AT&T Wireless, responded to an FCC order to disclose technical plans last November by saying they weren't ready to make a decision (the company later settled on a hybrid approach for part of its network). Sprint PCS reserved the right to change its mind about its technology choice. And European global system for mobile communications (GSM) operators have been watching to see which way the United States goes before making their own decisions, according to Dario Betti, an analyst with U.K. research firm Ovum.

Whether providers choose the network or the handset approach, making tracking technology widely available will be no trivial matter. "Carriers have to either upgrade their base stations or start getting GPS in their handsets," says Elliott Hamilton, senior vice president for The Strategis Group research firm. "Either one requires a lot of planning, and money as well."

Just the beginning

At least as tricky as building out tracking capabilities will be creating the services that take advantage of it. Providing raw location data—known as XY coordinates—is only the beginning. That data must then be mapped, in real time, to software and databases providing such things as routing directions, street addresses, and business locations to provide actual services. Specialists such as South San Francisco, Calif.–based Gravitate can provide software and services to tie such disparate elements together. Even with such help, however, other potential obstacles remain.

One of the thorniest is privacy. To have any chance of success, service providers must overcome Orwellian images of networks tracking the location of every cell phone at every moment. Technological arguments may persuade some. Detecting and calculating the position of millions of handsets in real time would take too much bandwidth and processing power to be practical, according to Gravitate co-founder and Chief Technology Officer Geoff Hendrey. In reality, "location updates are going to be much more [costly and difficult] than people think," he says.

www.gravitate-usa.com

Still, service providers will have to make explicit privacy guarantees to gain users' trust. "Overall, I think consumers recognize the value of these services, but they certainly want control over how the location information is used," says consultant Driscoll.

Service providers must also make sure they send only messages users want, such as reports of nearby sales or traffic accidents, and screen out the rest. Doing so will require tailoring messages to a variety of individuals and responding to their changing needs and desires during the day. And that could be the toughest task of all. ■

Mobile consumers are likely to hang up on any **location-based junk calls** they receive.

ROBERT POE (RPOE@BUSINESS2.COM) IS A SENIOR WRITER FOR *BUSINESS 2.0*.

Paradise Lost?

NEC's U.S. lab is a great place to pursue pure science. But Tokyo says, "Feed the bottom line." **BY CHRIS SANDLUND**

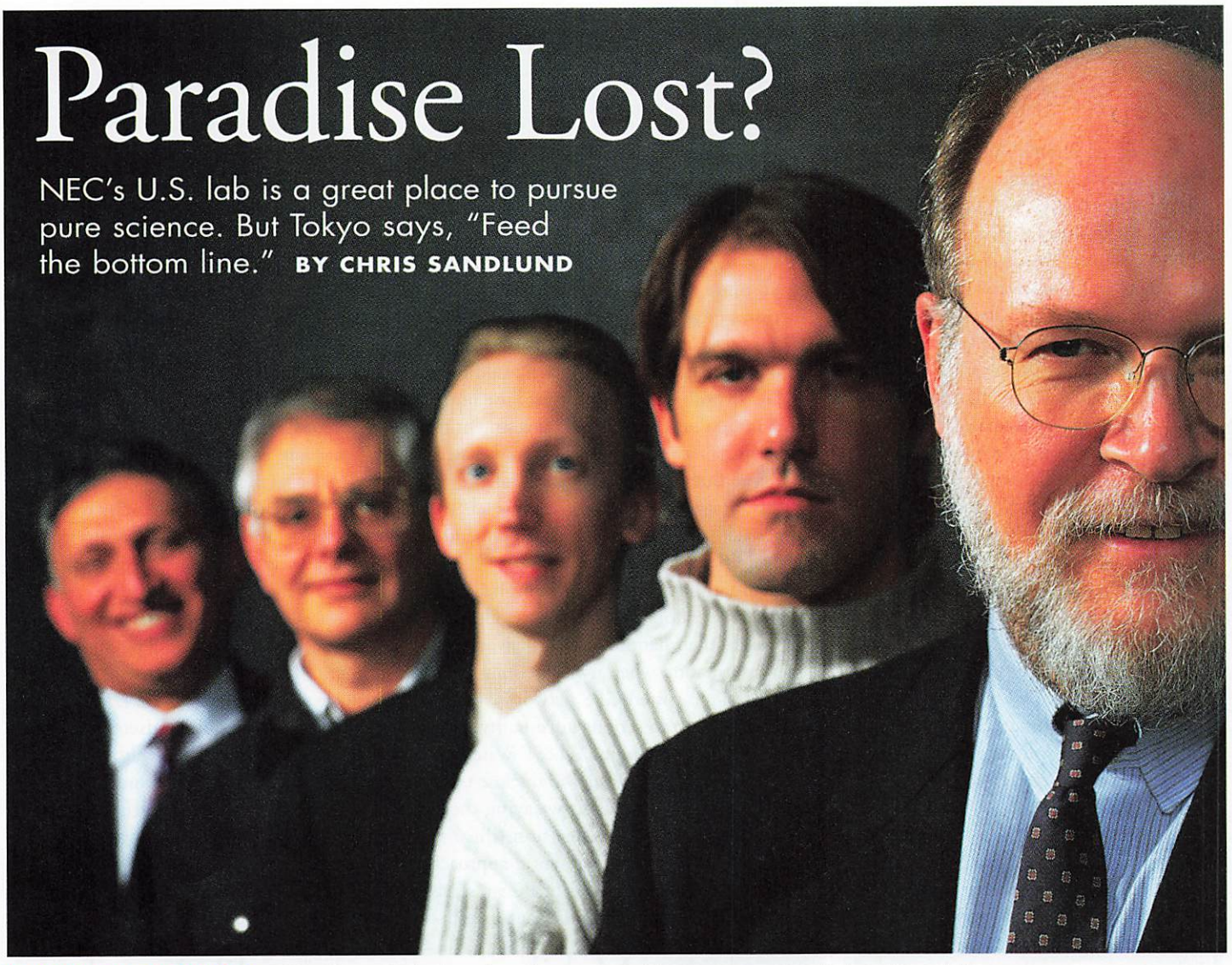


PHOTO: EVAN KAFKA

HEAVY-HITTING SCIENTISTS: NECI President David Waltz (from right) and teammates Gary Flake, Steve Lawrence, Richard Linke, and James Chadi.

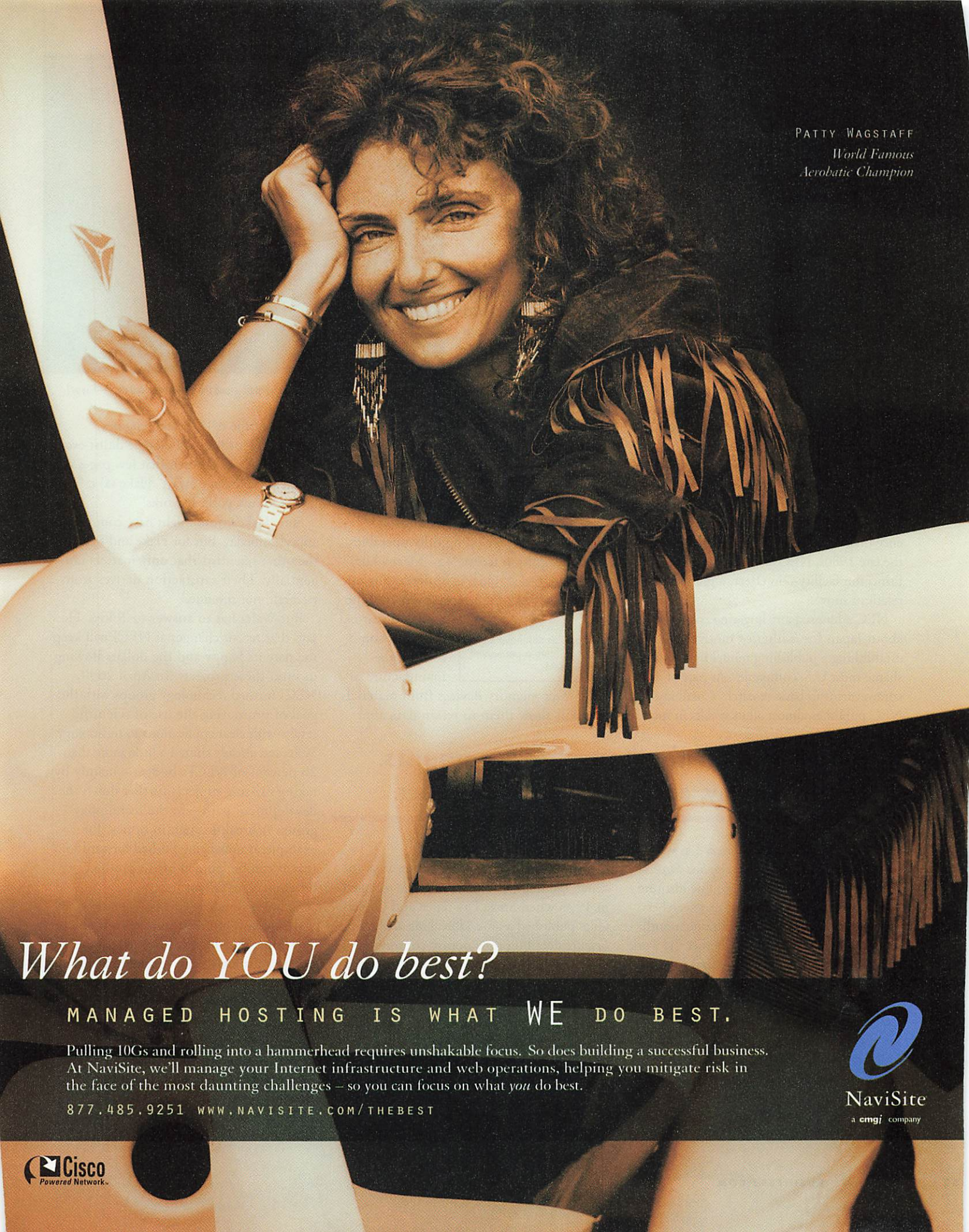
Transmitting a pulse of light faster than the speed of light is the kind of mind-bending, prestige-building discovery that the NEC Research Institute (NECI) was built to produce. So when Lijun Wang actually performed that astonishing feat last year, no one seemed to care that commercial application of his research is probably many years in the future. The kudos from the scientific community and terrific publicity were justification enough. But with parent company NEC struggling to boost profits, that kind of payoff may no longer be sufficient.

The giant Japanese company's problems peaked with a loss of about $1.3 billion in 1999. NEC responded by reorganizing its overall research and development group. But NEC researchers are facing more than simple belt-tightening: Like their colleagues at California's Xerox Palo Alto Research Center and New Jersey's Bell Labs, they are being asked to shift their focus to areas where payoffs are less than light years away.

"The head office is asking for results now," says Till Vestring, a consultant with Bain & Co. in Tokyo. "They're questioning how much they should be spending on these things. A lot of these expenditures are under threat the way they were at U.S. companies 10 to 15 years ago."

NECI President David Waltz says his Princeton, N.J., lab has escaped the worst of the storm—its budget has stayed flat. But the financial pressures are nevertheless reshaping the lab's mission. Budget and staff priorities are shifting away from flashy basic physical science, NECI's forte, in favor of applied science, with an emphasis on computing. In addition to producing research that generates intellectual accolades, NECI now must also generate intellectual capital that NEC can use in its bid to revive its fortunes as a major Internet and computing technology player. The change is probably necessary, but it will be a painful one for NECI's scientists. To them the lab has always represented the Holy Grail: NECI scientists are paid well to conduct cutting-edge research while remaining mercifully free of the academic responsibilities taken on by university professors.

Waltz recognizes that no company can afford to maintain its own ivory tower in today's competitive world. "It's hard to keep NEC pumped up when they see other companies moving away from the model of doing basic research," Waltz says. But he is trying to craft a middle way that preserves some independence for basic research while adjusting NECI's focus to more commercial endeavors. He hopes to provide Tokyo with



What do YOU do best?

MANAGED HOSTING IS WHAT WE DO BEST.

Pulling 10Gs and rolling into a hammerhead requires unshakable focus. So does building a successful business. At NaviSite, we'll manage your Internet infrastructure and web operations, helping you mitigate risk in the face of the most daunting challenges – so you can focus on what *you* do best.

877.485.9251 WWW.NAVISITE.COM/THEBEST

NaviSite
a cmgi company

Cisco Powered Network

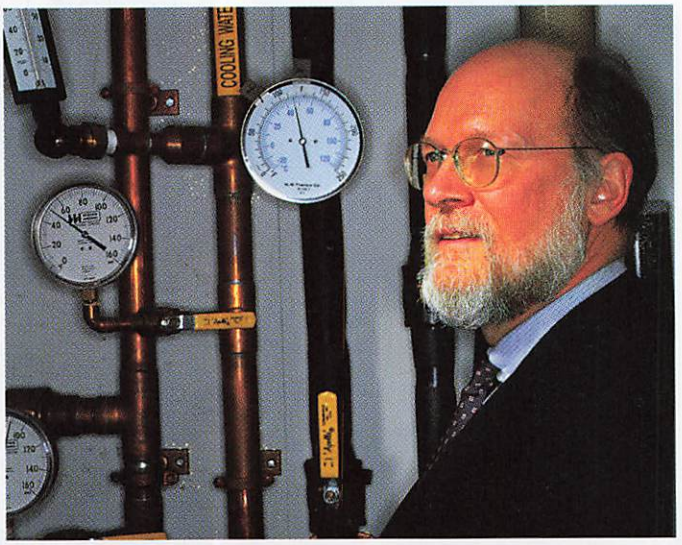


PHOTO: EVAN KAFKA

ON THE SPOT: Can Waltz keep his staff—and the Tokyo bean counters—happy?

tangible results while keeping his researchers motivated to do groundbreaking work—which is what they signed up to do, after all.

Proving the prowess

When NECI opened its U.S. center for basic research in May 1989, it was meant, in part, to heal Japan Inc.'s wounded pride.

American populists denigrated Japanese manufacturers throughout the 1980s as little more than assembly workers who benefited from basic research done elsewhere. NEC didn't like the accusation. It wanted to be perceived as a contributor to the global body of knowledge, says James Chadi, vice president of the science division for NECI. In the flush times of the late 1980s, NEC committed to build the Princeton facility—in effect, a grand public relations move.

Japan Inc.
A term used to describe the perceived close partnership between the Japanese government and the country's major industrial companies during the 1980s. Americans who felt threatened used the term derisively.

NEC addressed any lingering concerns about Japan Inc.'s ulterior motives by establishing a publishing model that would shame most U.S. companies. As part of its commitment to basic research, Chadi says, NEC publishes almost all its results in such publications as *Nature* and *Science*, as well as such technical periodicals as *Applied Physics Letters* and *Electron Microscopy*. The institute submits the articles as quickly as researchers write their final reports. Within one month, two staff lawyers determine whether the work contains any patentable intellectual property and clear the paper for publication.

But in hindsight, the yelps of the America First crowd about Japan's lack of innovation were really about the inability of American industry to compete. When, in the 1990s, America's high-tech and even smokestack industries found new and successful footing, those concerns about Japan melted away. As the furor died down, NEC ended up sitting on a multimillion-dollar PR investment, wondering if it was worth the money.

Proving practicality

Today, Waltz must justify more than 100 employees, including 30 research scientists (split between computer and physical sciences), a floating pool of postdoctoral researchers, graduate and undergraduate students, as well as visiting professors on sabbatical from their universities. Work runs the gamut from basic research to the nearly commercial.

A computer vision group is working on rendering 3D environments from 2D images and on developing fully operable facial-recognition technology. Meanwhile, work in ferroelectronics is finally teasing out answers to some of the 50-year-old questions concerning the manufacture of low-power memory devices from materials that will allow them to retain data after shutting down.

Ferroelectronics
The science and engineering of materials that have the ability to store a permanent electric field.

NEC is also working on better ways to search the Internet. Media coverage rocketed in 1998 when Steve Lawrence and C. Lee Giles published a groundbreaking analysis in *Science* detailing how poorly commercial search engines cover the Web. More recently, after six months of toil, Gary Flake designed an experiment to beat conventional search engines by defining "expert communities" on the Web from a limited number of examples. When he fed his program with sample sites on a favorite topic—support vector machines, computers that learn and recognize patterns—it kicked back a list of sites topped by that of Vladimir Vapnik, the founder of the field. Search engines AltaVista, HotBot, and Google didn't even list Vapnik's site on their first few pages of results. "It blew me away," Flake says. "I was like, 'Oh, my gosh. It works!'"

Sure, Flake's work might have commercial appeal someday. But for Flake and many of the other scientists that only matters tangentially. Their satisfaction derives from research, not revenue.

But Waltz has to answer to Tokyo. He says that recent changes at NECI will keep the parents happy and the dollars flowing to fund these projects. In April 2000, NECI formed technology groups with the goal of promoting the use of scientific results with clear applications to technology. Waltz has already shifted a little more than 20 percent of NECI's budget—mainly by taking existing projects further down the development path—to the technology group. A breakthrough in optics, for example, is now being pushed forward so that it can be handed off to product developers in Tokyo.

Senior research scientists Richard Linke and Tineke Thio are leading work to determine why light hitting certain metals can pass through holes smaller than light wavelengths. If NECI can control these situations, light could be squeezed into smaller diameters than normal—enabling more refined scanning, finer geometries in semiconductor etching without expensive X-ray equipment, and optical storage with 100 times current capacities.

Waltz is also continuing his predecessor's policy of shifting the professional

Scientists live for the "eureka" moments. Take them away, and NECI could wither.

balance of his staff. As physical scientists quit, they are replaced with computer scientists. NECI now gives about 60 percent of its budget to computer science compared with an even split when the institute was founded.

And to ensure that research more closely mirrors the needs of the market, Waltz hopes to establish closer ties to NEC's customers and sales force, a tactic he learned while working at Thinking Machines where this sort of customer interaction was common.

Waltz hopes that these efforts will inspire projects that can be fed into the venture development center that NEC established in 1999 to spin off companies from its worldwide research. To date, however, none has spun off from NECI.

Preserving the spirit

It is scientists, of course, who need to make these changes work—and their motivation for coming to NECI was not profit or early-stage product development. They wanted to conduct research of their own devising.

Although younger scientists such as Lawrence and Flake were in high school in the mid-'80s when American companies began to slash basic research funding, older ones such as Chadi and Linke spent time at Xerox PARC and AT&T Bell Labs. They remember. They talk about NECI as if it is some sort of Paradise Recovered—that *this* is the way research should be done.

"You can't do advanced technology without knowing basic science," says Chadi, while discussing the lack of research at small startups. "The big company is still the best way to do this."

Perhaps. But Tokyo is already changing the culture of NECI. Asked about the prospect for further shifts, one scientist who had been through it all 10 years ago at a major oil company says that he has learned to make plans only in three-year cycles.

Given the time frames of most basic research projects, that's like saying he has learned to make plans only for next month. With Tokyo headquarters hot for profits, that may be a wise course.■

CHRIS SANDLUND (CHRIS@SANDLUNDMEDIA.COM) IS A BUSINESS AND TECHNOLOGY WRITER BASED IN COLD SPRING, N.Y.

Access Manitoba

Access bottom-line benefits

Make Manitoba, Canada your next customer contact centre location. Manitoba offers an unbeatable combination of people, operating costs and lifestyle advantages.

ACCESS MANITOBA'S ADVANTAGES

- **Access** longer business hours from our mid-continent location
- **Access** significant savings in business costs* over other U.S. and Canadian centres
  *KPMG study
- **Access** our multilingual workforce known for its skill, experience and strong work ethic
- **Access** an exchange rate that adds an automatic 44% directly to your company's bottom line

Access the location, people and cost advantages in Manitoba, Canada.

Access Manitoba

Your Business. Our People.
Profit from the partnership.

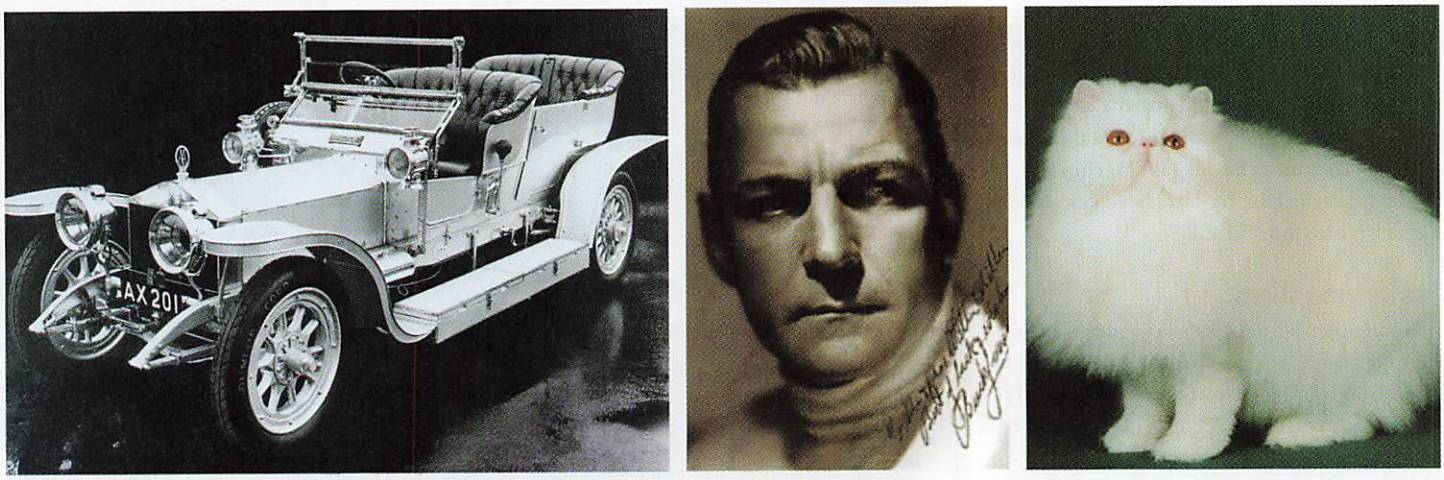
1-800-463-6360 (Ext.02)
E-MAIL info@calctr.gov.mb.ca

Manitoba

BREAKTHROUGH

Image Problem

Finding the right picture on the Web has been a 50 billion-to-1 shot. The odds are finally starting to come down. **BY DAVID ORENSTEIN**



GET THE CAR: Using the search term "Silver Ghost," you'll get the Rolls you're looking for, but it will come buried among unwanted men and cats.

The image you're looking for is out there. Whether it's a pirated version of your company logo, a stunning product shot that could attract customers, or a photo of a long-lost friend, it's likely there among the the 50 billion images spread across the Internet. You'll need computerized help, of course, to sort and search through this mass of visual information, and even though today's machines have difficulty distinguishing between monkeys and mountains, emerging technologies will make it more practical to mine cyberspace for visual treasure.

The digital imaging industry has developed a crucial new standard that will allow computers to efficiently find pictures based on metadata, or text that describes each image. And researchers are working to make entering that text as effortless as possible. Meanwhile, the industry is struggling to find a sexier solution, using pattern-recognition software that can "look" at images and then find others that resemble them. Although neither method functions smoothly yet—indeed they both contain serious weaknesses—businesses are already probing the potential of the new technologies:

- Construction-equipment maker Caterpillar experimented with a service from Cobion that searches the Web to root out misuse of its brand imagery, such as unauthorized use of the Caterpillar logo by affiliated dealers. The service worked well, says trademark counsel Gene Bolmarcich, but it ultimately proved too expensive.
- eRugGallery.com uses image recognition technology to let shoppers select a rug they like and then find similar models. Visfinity, the company that created the eRugGallery.com site, now offers ecommerce sites built with its "visual search" software, which is based on Convera technology.
- Media companies that use visual search tools and metadata to manage their pictoral and video archives see returns as high as 14 times their investment, according to analyst firm Future Image. Related efforts are creating new opportunities for Website developers to use video online (see "Moving Pictures," July 25, 2000, p74).

www.cobion.com

Metadata
Embedded data, usually text, used to describe an object. Metadata accompanying photos might include the photographer's name, the caption, the aperture, and so on.

Can you DIG it?

Metadata is nothing new in computing or even in photography, but it's especially easy to use when available in a standard format. Therefore, change came when the Digital Imaging Group, a consortium that includes Canon, Eastman Kodak, Fuji, Polaroid, and others, created the DIG35 standard, a standard simple and universal enough to succeed where proprietary metadata systems and EXIF, the current industry standard, failed.

To spur adoption of DIG35, companies began rolling out software last fall. At Comdex/Fall in Las Vegas, Kodak reported it will give away its once proprietary Picture Metadata Toolkit software. The software provides a standard way to access image metadata in the DIG35 and EXIF formats. Meanwhile, German image-management

"New software will make it easy to **mine cyberspace** for visual data."

software company Canto Software unveiled a DIG35 filter for its Cumulus software in January at Macworld in San Francisco.

Metadata automata

Because many photographers (especially amateurs) refuse to type in extensive metadata, imaging companies aim to make it easier to do. Digital cameras that use EXIF already embed information such as the time, date, lens type, and aperture settings of a picture, says Tony Henning, a senior analyst for Future Image. A few professional models with global positioning system chips even store the exact location where a photo is taken. The real frontier, however, is finding a way for more sophisticated data, such as the actual content and significance of a picture, to be entered automatically.

Convera is devising ways to automatically identify metadata within photos and videos, says Dan Agan, a senior vice president. One path being examined: Teach a computer to recognize descriptive text such as "Welcome to Grand Canyon National Park." Another tactic: Convert spoken words into text. Search software would recognize speech within the video soundtrack or in comments recorded by the photographer or editor. Digital cameras, of course, would have to be equipped with microphones and extra storage capacity to take advantage of the technology.

www.digitalimaging.org

Kodak has a patent pending on a system where metadata is sent automatically to a camera via a short-range wireless transmission, Milch says. Visitors to the lion's cage at a zoo, for example, could snap a photo and instantly receive detailed descriptions of the lions from a zoo transmitter. No typing or voice required.

Recognition wants respect

Of course the best way to automate both search and retrieval would be to build computers that actually recognize photographed images. Cobion, a German recognition company that helps companies police brand imagery online, uses a 1,000-processor supercomputer to do its analyses. It's not clear when or even if researchers will ever fully succeed, but they have already given computers enough intelligence to provide basic assistance in searching.

Major media companies such as ABC News Internet Ventures and Discovery Communications have been using a combination of proprietary metadata and image-recognition software to cut the costs of managing their huge image databases. By midyear, Lycos will bring that technology to the Web. The site plans to add image-recognition software to its picture-finding engine, which previously could only search the captions of pictures in its vast picture galleries.

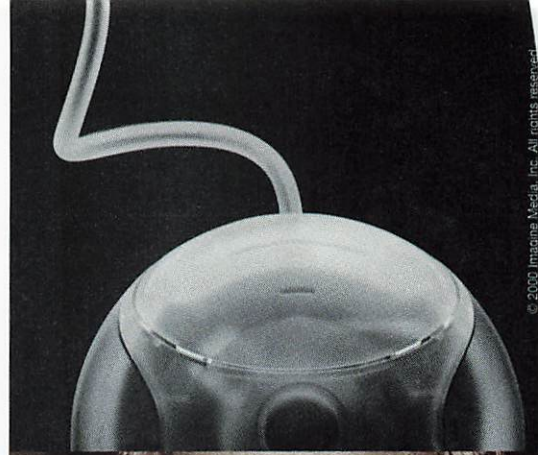
Lincoln Jackson, Lycos' group product manager for search, expects image recognition to reduce the number of false hits by weeding out irrelevant images that nevertheless contained similar metadata.

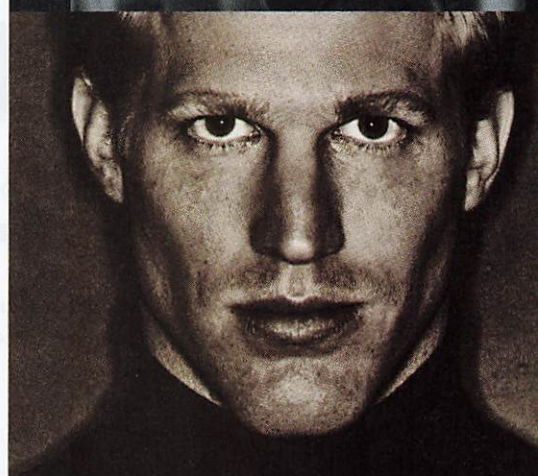
But recognition software understands patterns of pixels, not context and meaning. A brown, broad-shouldered monkey with a shock of white hair looks to existing recognition software like a brown, snow-capped mountain. Software would struggle to tell the difference. The problem is a fundamental disconnect that still exists between people and machines. That disconnect spurs Microsoft researcher Xiaoning Ling to question whether machines will ever fully automate image annotation and searching. "People view pictures in a semantic way, but [attributes such as] color and texture are syntax," he says.

Still, people are drawing closer to finding a usable combination of technologies to efficiently access visual data, even if the methods are less than picture-perfect. ■

MONKEY OR MOUNTAIN: Similar digital data; two very different things.

DAVID ORENSTEIN (DORENSTEIN@BUSINESS2.COM) IS A SENIOR WRITER FOR *BUSINESS 2.0*.





FEED YOUR HEAD

Food for thought is now delivered daily to your ravenous brain cells. Our free Daily Insight newsletter is an easily digestible addition to your business information diet. Simply sign up at business2.com/insight.

BUSINESS2.0®

BREAKTHROUGH

Double Duty For DSL

How about 24 phone lines on a single DSL channel? **BY ROBERT POE**

ILLUSTRATION: RON CHAN

What comes to mind when you think about DSL? High-speed Internet connections over ordinary copper phone lines, of course. Now, DSL is ready to take on a new, almost opposite role: providing as many as 24 phone circuits over the same high-speed data link using the same pair of copper wires.

The emerging technology known as voice over DSL (VoDSL) lets service providers earn more per DSL line than they could from high-speed data alone. It's a benefit for the providers, of course, but customers will win too. That's because providers will finally have an incentive to speed the glacial rollout of DSL, and they'll be able to offer cheaper, more flexible combinations of voice and data services. And customers will be able to buy a complete set of services from a single source.

The Yankee Group estimates that U.S. revenue for VoDSL services will reach $567 million this year, rising to $3.2 billion in 2004. Several pioneers, such as Network Plus in Quincy, Mass., already offer such service. And operators around the country, including DSL providers and major phone companies, are running trials.

www.npl.com

Chasing five nines

If all this sounds familiar, you're right. VoDSL was supposed to take off two years ago. In early 1999, a flurry of industry announcements predicted that adding voice service would give DSL a mass following almost overnight. It didn't happen.

One problem: The most likely VoDSL users were small businesses, but most of the companies offering business DSL weren't set up to offer voice services. They didn't have the back-office equipment, for example, to bill for individual phone calls. And players that offered both voice and data services typically targeted larger customers. Now both types of providers are building the infrastructure they need to serve small businesses.

Skittishness about the technology also played a role. VoDSL starts with a DSL connection providing from hundreds of kilobits to several megabits per second of capacity. Specialized equipment at the customer's premises and in the service provider's network peels off bandwidth in phone-circuit sized slices—typically 64Kbps each—to transport as many as 12 calls (or twice that many using data compression) at a time. When no calls are in progress, the entire bandwidth can carry data.

But the technology is relatively untested in a world where phone service has to provide "five nines"—or 99.999 percent—availability. "It's one thing giving somebody your data traffic, and another thing giving them all your voice traffic, too," says Peter Meade, managing partner of TeleResearch of Carlsbad, Calif. "That's really scary if something goes wrong."

While manufacturers say VoDSL equipment is now reliable, not everyone is convinced. "The carriers are being cautious about implementing the service," says Matt Davis, a Yankee Group analyst. "There's been quite a bit more testing than with other [services] brought to market."

Compelling economics

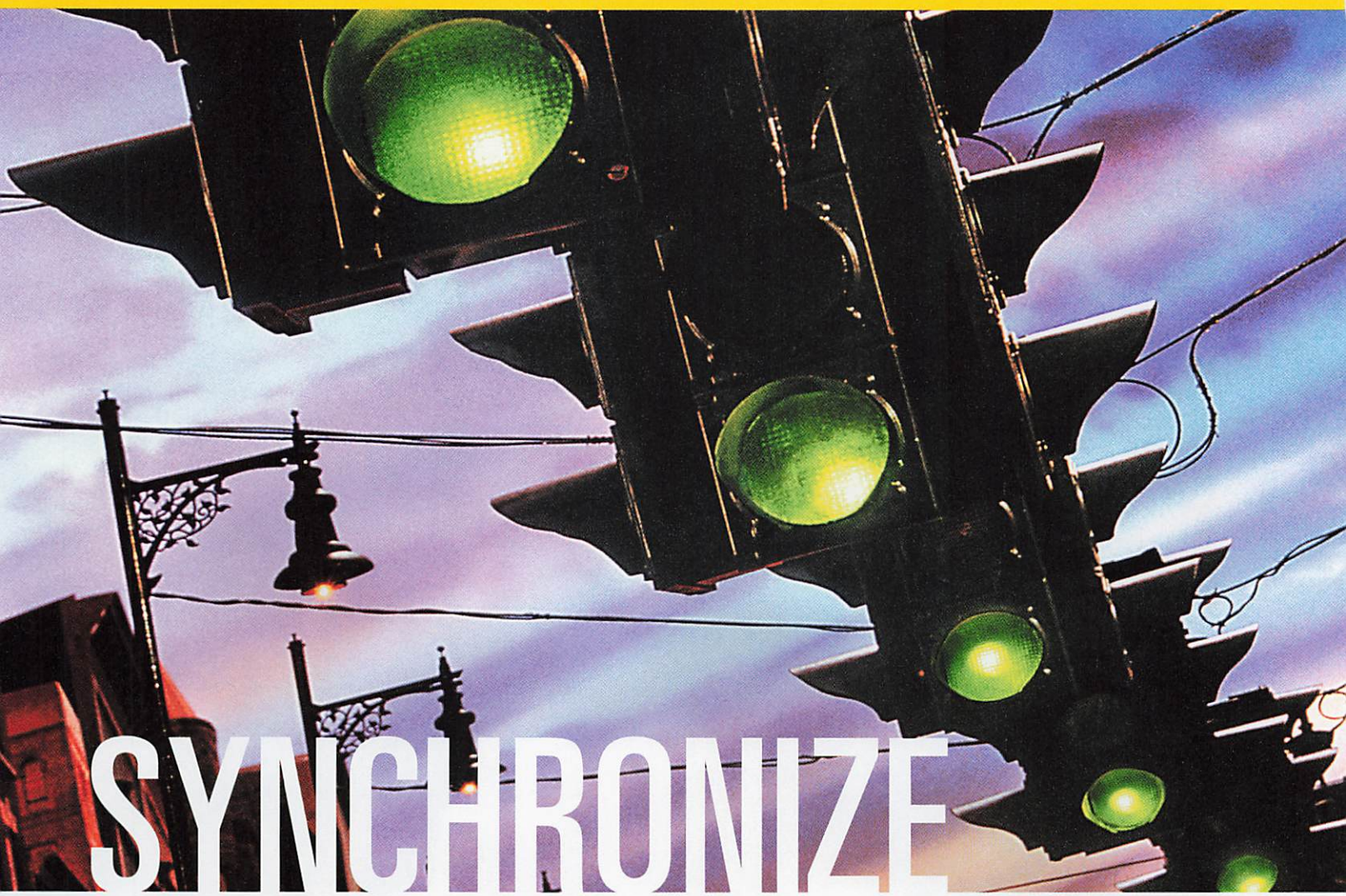
But VoDSL has some powerful arguments in its favor. The strongest: Service providers can "lease one copper pair [from the local phone company] and turn it around to offer eight voice lines," notes Meade. "The mathematics are incredibly attractive."

It all adds up to serious growth potential. "By the end of the first or second quarter [of 2001], there will be a significant push by service providers into this market," says The Yankee Group's Davis.

The user base may also broaden. As increasing volumes drive equipment prices down, Davis notes, VoDSL may become affordable for residential users—and families won't need to install new wiring as their communications needs grow.

Then they'll just need to figure out how to split the bandwidth between streaming music videos and talking. On second thought, better call an electrician.■

ROBERT POE (RPOE@BUSINESS2.COM) IS A SENIOR WRITER FOR *BUSINESS 2.0*.



your marketing across online and offline channels. With engage.

Introducing the Engage Multichannel Promotion Suite.

How can you easily synchronize your marketing programs across multiple channels to accelerate sales? Simple. Engage's *Multichannel Promotion Suite* lets you create targeted marketing programs with unmatched consistency across traditional and interactive channels — from the Web and catalogs to print and online ads. With powerful promotion planning. Sophisticated production workflow. Plus integration with leading merchandising and marketing systems. So you'll not only drive brand impact, customer satisfaction and revenue ... you'll get to market faster and put the brakes on production costs.

Get in sync. Visit **www.engage.com/synchbu** or call **1-800-U ENGAGE x124** today for a demonstration of the *Multichannel Promotion Suite*, and get a FREE guidebook to multichannel marketing.

1 Customer Retention Suite
2 Multichannel Promotion Suite
3 Multichannel AdManagement Suite
4 Interactive AdManagement Suite
5 Interactive Media & Analytics

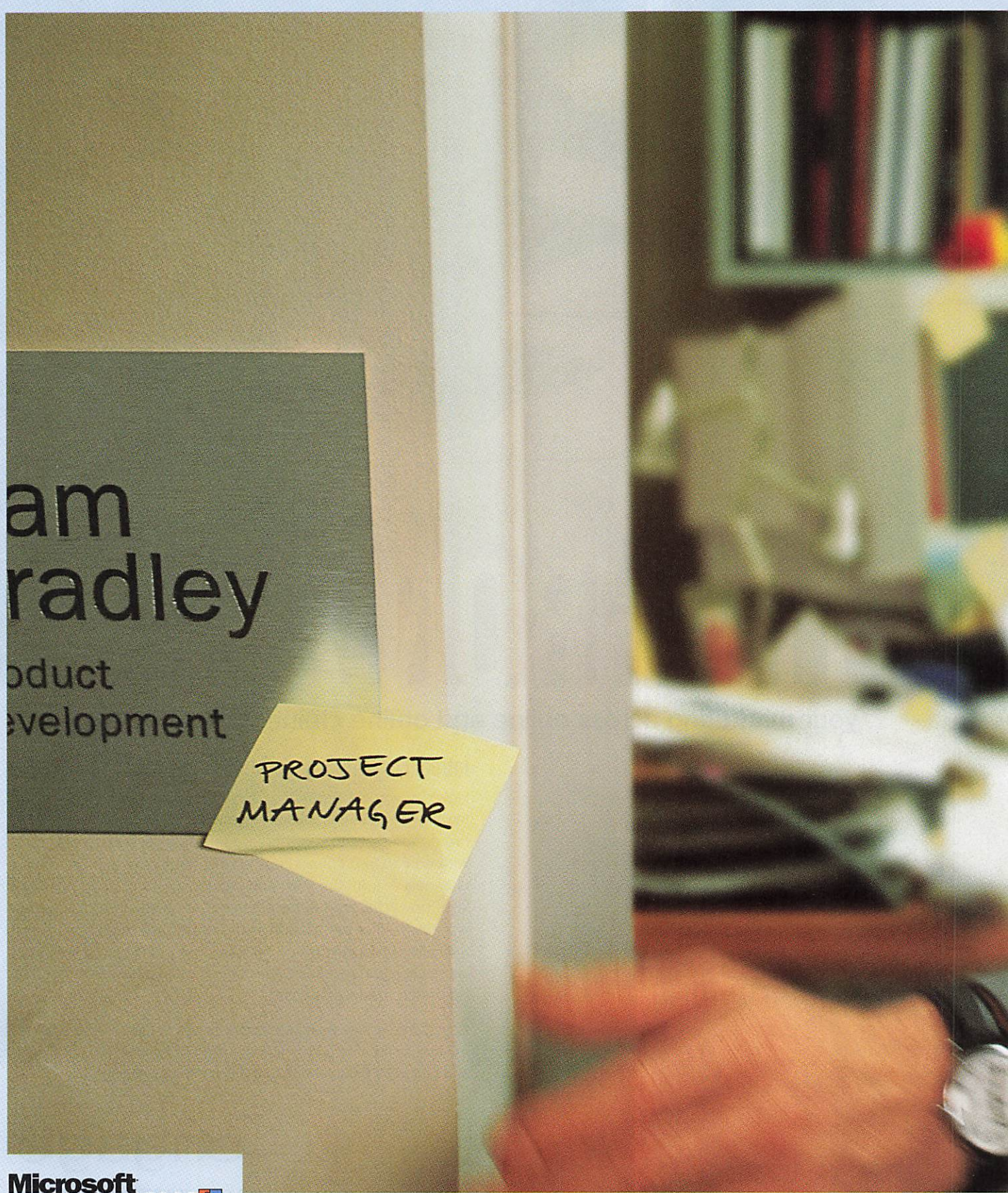
engage®

a cmgi company

Synchronized Multichannel Marketing

www.engage.com/synchbu

© 2001 Engage, Inc.



Microsoft Project 2000

© 2001 Microsoft Corporation. All rights reserved. Microsoft and the Office logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Canary yellow color is a trademark of 3M.

Have you answered more than 10 questions today?

If so, then you're a project manager.

The workplace is more demanding than ever. And to make it even more challenging, you're responsible for managing a multitude of complex tasks. So, whether you consider yourself to be one or not, you're a project manager. You're expected to create products or services rapidly and on a budget, no matter how quickly the business environment changes around you. That's why Microsoft® Project 2000 is filled with flexible tools for scheduling, organizing, analyzing, and reviewing all kinds of tasks and projects. It's also optimized with features that automatically update information, manage resources, and let users work collaboratively across an organization. Which in turn helps you answer all those questions. And answer them quickly. To find out more, visit **microsoft.com/project** or go to Internet Keyword: Microsoft Project. **Software for the Agile Business.**

Microsoft®

Show customers some teeth. —p64

They'll tell all for a T-shirt. —p68

Websites That Waited And Won

Old-line companies didn't market their Websites and looked like out-of-date dinosaurs. Until now.

BY JENNIFER GILBERT

The Maytag repairman—"Ol' Lonely" as he's affectionately nicknamed—should have seen it coming. If his company could be so forward-thinking about home appliances, he should have realized it would embrace the Internet. And that's exactly what it has done.

Long a leader in washers and convection ovens, Maytag has pushed the Web envelope since 1995. But as the Buy.coms of the world boldly advertised themselves, Maytag quietly plodded along, building and polishing its ecommerce and branding sites. Unlike pure-play upstarts, it was cautious about advertising its Internet capabilities before it was ready.

There are a variety of reasons why Maytag and dozens of other offline companies held back from advertising their Websites. Some obviously didn't get the Net, says Michael Dunn, CEO of Prophet Brand Strategy in San Francisco. Others "waited because they didn't see the urgency as it related to their core business," Dunn says.

www.prophet.com

But most just wanted to be careful. They didn't want to advertise offerings that overpromised and underdelivered. "It's so difficult to redeem your brand once you have broken the promise," says Scott Kraft, a partner with New York branding agency Sterling Group.

www.gosterling.com

Barnes & Noble, Gap, and technology companies such as Sun Microsystems have promoted their Internet channels, arguably since day one. They went head-to-head with Amazon.com, Bluefly, and CNET, launching ad campaigns that made them look with-it and Web-savvy. "The people that went out most aggressively were the ones that felt the

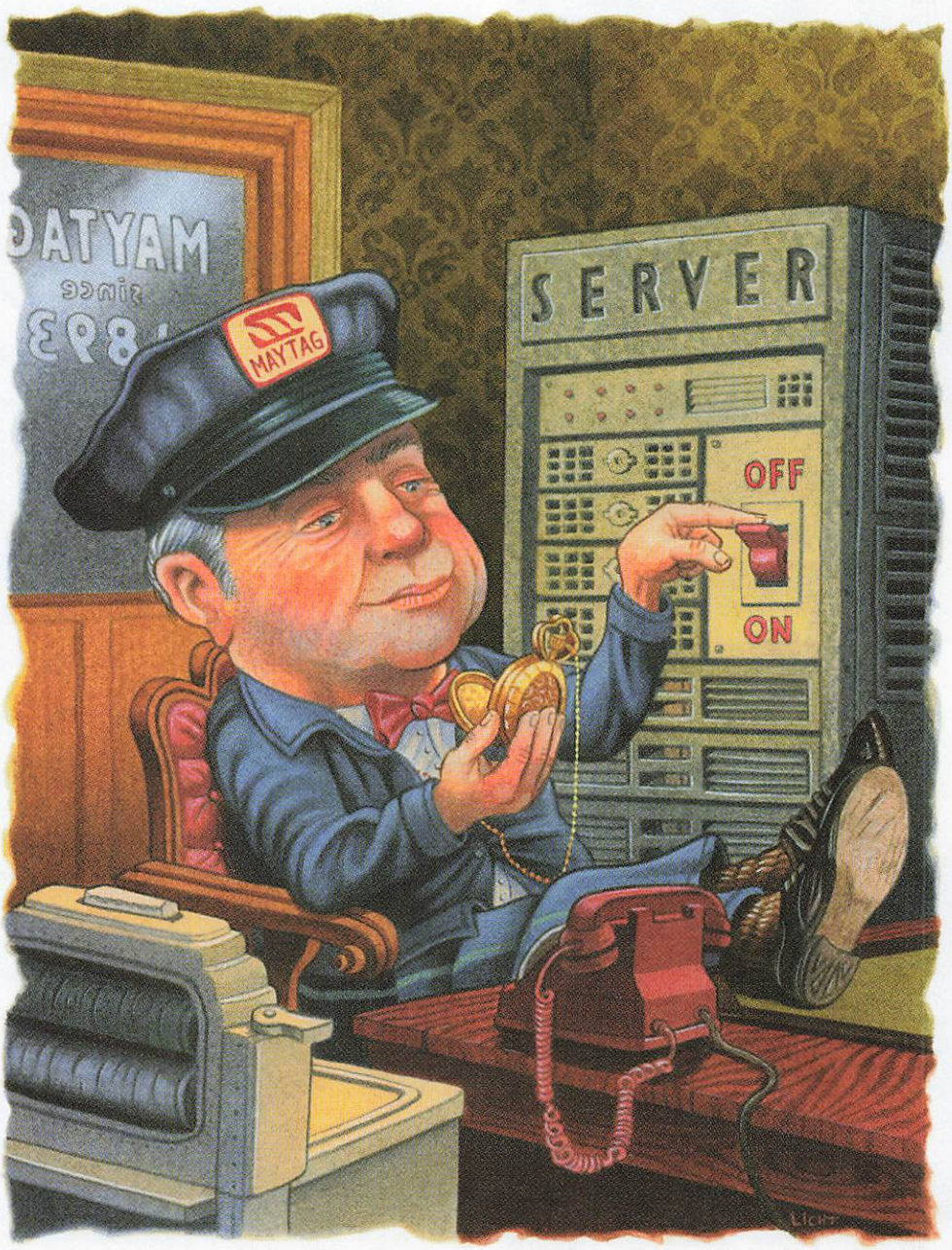


ILLUSTRATION: MAX LICHT

WORK HARD. BE SUCCESSFUL.

GO SOMEPLACE WHERE NONE OF THAT MATTERS.

There are places in this world where you are not a CEO, a mogul, a player, or even a hotshot. Places where all you are is a human being. The question you must now ask yourself is, "How can I get there?" With Range Rover's permanent four-wheel drive, electronic air suspension and unique off-road navigation system, the answer may be, "Quite easily." Visit a Land Rover Centre and see what a Range Rover is made of.

LAND ROVER

RANGE ROVER

VISIT LANDROVER.COM OR CALL 1-800-FINE4WD. Tread lightly! Drive responsibly off-road. Vehicle driven by professional driver. Consult owner's manual before entering water. ©2001 Land Rover North America, Inc. Always use your seat belts. SRS airbags alone do not provide sufficient protection.

MARKETING

"Because we are an older company, it's much **easier for a consumer** to find us online."

most threatened," Dunn says. "If you were a Charles Schwab and you had a pure-play brokerage on your heels, you had no choice but to respond with a substantive service offering and then go out and promote it."

But other traditional companies approached the Web in stealth mode. They waited. They were frugal when pure-plays spent buckets on advertising. A year ago, that looked foolish. Now that the dot-com advertising clutter is gone, old-line players can come out and make some noise.

In no hurry

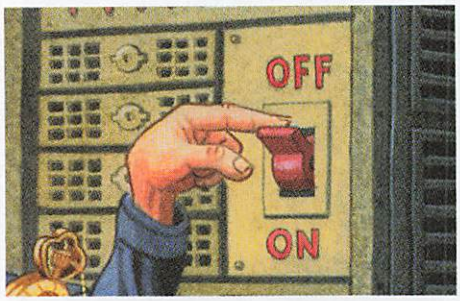
Take Maytag. The 108-year-old, Newton, Iowa–based appliance manufacturer set up its first Website in 1995. But in 1997, Maytag introduced its Neptune washer, which quickly became one of the company's flagship products. Maytag created a micro site for the machine, and for the first time allowed preordering online. The result: It sold thousands of Neptunes at about $1,000 each, says Ken Boyle, Maytag's vice president of ecommerce. Orders were delivered through retail partners such as Sears and Best Buy.

www.maytag.com

The company, meanwhile, kept improving its site. But it wasn't until 1997 that Maytag started advertising its URL, Maytag.com, in television and print advertising from Leo Burnett of Chicago. During the past three years, all of Maytag's advertising—the company spent $63.3 million on traditional advertising from January through September last year—has carried Maytag.com's logo.

Maytag overcame a stumbling block in 1999, when it tried to sell direct and suffered "major backlash" from retailers, Boyle says. Abandoning that strategy, the site now helps users pick the right appliance.

Maytag, which recently unveiled new television spots introducing Ol' Lonely's "apprentice," waited to advertise until it had something to say. "We view the Internet as just another way to have a relationship with the consumer," says Colin Bain, manager of Maytag's Internet business development. "That's why we are promoting it. We are not responding to a fear of missing out; we just wanted to take our relationship with consumers to a higher level."



Bain says Maytag's benefit in waiting to promote Maytag.com, besides having more time to improve the site—which now gets more than a half-million unique visits monthly—is that "a lot of the noise is gone; the distraction [of dot-com advertising] is gone. People are going to realize that the bricks-and-clicks are going to win, and for Maytag, that's going to serve us very well."

Pottery Barn also approached the Web slowly. Its parent, Williams-Sonoma, did not launch a site until last August. "Part of our strategy was to slowly bring our brand concepts online," says Shelley Nandkeolyar, vice president of ecommerce at Williams-Sonoma, which launched its first gift and bridal site at Williams-Sonoma.com in June 1999. Next on the company's agenda: potterybarnkids.com, launching this spring.

www.potterybarn.com

While others have rushed into it, we've carefully developed the right capability to support the business once it launches," Nandkeolyar says. "We wanted to make sure the online experience was in line with the brand."

The retailer advertised the launch of its Website with counter cards in stores and in a gatefold ad in its summer 2000 catalog. The company continues to advertise its URL in stores and catalogs, and through email marketing. Last fall, company advertising for the first time promoted all three sales channels: stores, catalogs, and the Web. The print campaign, created in-house, ran in publications such as *Architectural Digest, House Beautiful,* and *Vanity Fair.*

Going direct

Ford Motor, like Maytag, is not new to the Web. It has had an information site since 1997 and continually revamps it. The com-

Late to Web Marketing?

HERE ARE SOME **EXPERTS' TIPS** FOR SECOND-WAVE WEB ENTRANTS.

1. Take your time. There's no need to rush to set up and promote a Website. Beware of the backlash that premature advertising can create. "How do you feel about a retailer that posters its windows with 'Coming in the fall' signs, and then doesn't open until the following summer? A full-out ad campaign would compound the problem," says Scott Kraft, a partner with the Sterling Group.

2. Do your homework. Learn about your customers' wants and needs and how you can meet them online. "Consumers may have been more forgiving last year," and the risk to marketers is much higher now if they "can't meet minimum expectations," says Michael Dunn, CEO of Prophet Brand Strategy. "Listen to consumers," Kraft adds. "Speak with consumers and hear what they have to say. A lot of bad dot-com advertising could have been solved that way."

3. Leverage existing advertising. There's no need to spend millions to promote a site separately from existing brand advertising; just adding a URL could be enough. "We don't really have specific ads geared toward driving traffic to Ford.com," says Garett Carr, manager of Ford.com. "Whenever we have ads for Ford we always have the URL at the bottom."

4. Don't be wacky. Get away from loopy, attention-getting advertising such as the ads produced by pure-plays. Identify and hype your value proposition. "You've got to be able to look at your business and ask, 'What are the tangible benefits this company has delivered to investors and consumers?'" Kraft says. "If you are really delivering the goods, you can talk about it. At this point, we've got such a saturation of dot-com advertising that it can't be the same approach. It has to be focused on the value that has been delivered as opposed to the value that might be delivered."

5. Don't fret. Good brands will continue to carry weight, whether offline or online. "Big, mature companies have learned through the years how important it is not to anger anyone," Kraft says. "One connection broken can turn into a complete disaster." —*JG*

pany's first site was a kind of auto show online, showcasing all Ford brands; individual brands now have separate sites. But even as pure-play car sellers rushed to the Net, Ford banked on its brand recognition to drive site traffic. It did not spend millions on advertising. Ford now puts its URL at the bottom of offline ads, although it's never the focal point of the ad. The company draws a million unique users to its site every week.

Ford plans next year to roll out FordDirect.com, a site that will enable online purchasing of Ford vehicles from dealers. The site will be so different that Ford intends to promote it heavily, says Garett Carr, manager of Ford.com.

But the campaign doesn't have to be wildly expensive to be effective. "Because we are an older company, it's much easier for a consumer to find us online," Carr says. "As long as your URL is predictable, it's pretty easy for people to find you."

Another Ford advantage: Deep pockets. Ford's ad budget in 1999, according to Competitive Media Reporting, was more than $1 billion, and ad spending reached $862 million through last September. So tacking the URL onto existing advertising is "hardly an additional expense," Carr says.

The pressure to be online quickly is over, but old-line companies, pundits say, should still proceed with caution. "Great brands will always win as long as they remain vital to their customers," says Sterling Group's Kraft. "Do they need to be online? Absolutely. Do they need to advertise to make it? Not necessarily. They need to use the most effective means to let their existing and target audiences know that they are [online] and to make the case that theirs is the place to go."

Adds Dunn of Prophet: "Be sure that you have everything in place and be highly confident in your ability to deliver upon any promise you are making, because there isn't the same sense of urgency around putting a stake in the ground anymore. People will be patient. The danger is getting out there too early, making a lot of promises, and not being able to deliver." ■

JENNIFER GILBERT (JGILBERT@BUSINESS2.COM) IS A STAFF WRITER IN THE NEW YORK OFFICE OF *BUSINESS 2.0*.

THERE'S ONLY ONE PROBLEM WITH STANDARD OFFICE FURNITURE. WHAT'S A STANDARD OFFICE ?

ANTHRO®
TECHNOLOGY FURNITURE®

AVAILABLE AT:
WWW.ANTHRO.COM
or 1-800-325-3841

It's a brave new world. Your office may be a loft, garage or unused corner. Normal no longer exists. That's why we offer modular furniture that can be configured to your space and equipment, no matter how specialized. To learn about our custom fit solutions, lifetime warranty and passion for service, tour our eye-opening Anthro website.

MARKETING

One Last Chance To Snare a Customer

Double-digit click-through rates? Dynamic customer acquisition services such as Gator.com and Dash.com give advertisers some teeth. **BY JOANNE R. HELPERIN**

ILLUSTRATION: DAVID HOUSHAW

Being in the right place at the right time is more than just luck for the folks at Gator.com. They have made it a science.

The Redwood City, Calif., company has developed a "smart online companion" that enables advertisers to target any individual visiting any Website. It lures the targets to a competitor's site, often when they are about to make a purchase. Some might call it "poaching," but Gator.com's executives wouldn't call that politic.

Gator and other companies that have developed so-called merchant-independent, persistent "agents" have been called "eyeball bandits" or "eyeball thieves." In a way, that's true. The small browser plug-ins, which users can download free, follow users' movements throughout the Web. Through the browser, agents learn where a user is, what he or she might be about to do or buy, and for what price. Then the agents make a better offer. Users are motivated to check out the offer, since they activate the agents voluntarily by downloading them. Most consumers hear about the gimmick through an advertiser's online campaign, or by word-of-mouth.

While Gator is the latest entrant into the agent space, its bandit function is common to several other consumer services and products, including free ISP NetZero and AllAdvantage.com, which offers users either free Internet access or money to watch ads. New York–based Dash.com also offers a shopping agent/browser companion.

While all take a different tack, they promise to enhance the online shopping experience for consumers. Instead of serving up a long list of ads across a network of preselected sites, agents

All of your customers can be found at one address

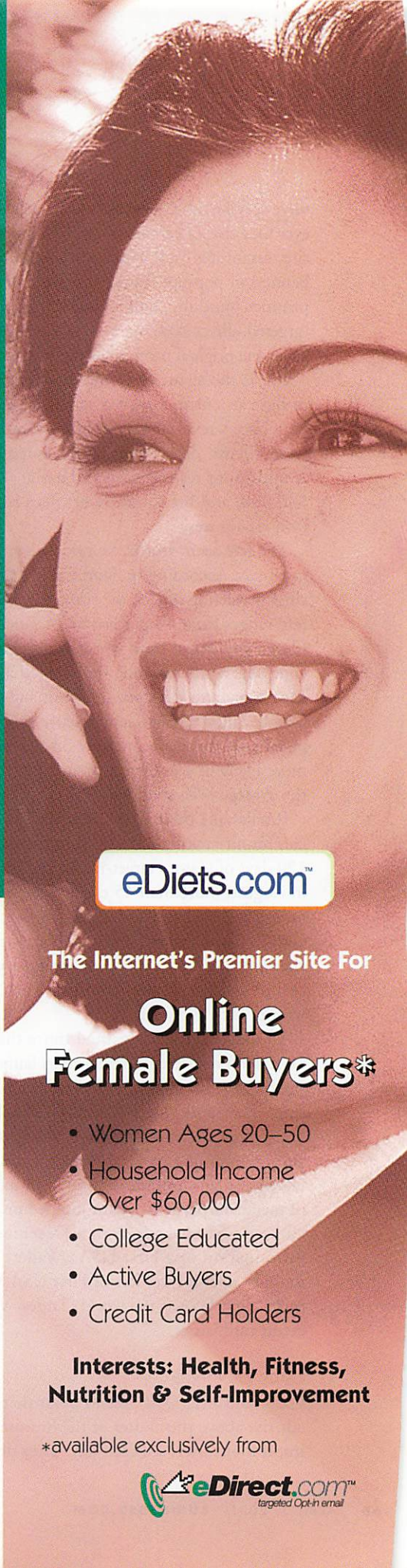
www.edirect.com

Your total Opt-in email Solution.

eDirect.com offers 100% permission based marketing. Custom Opt-in email campaigns and eSurveys. Email broadcasts and transmissions at no extra charge. New eHotline data every month. Mailing address, phone numbers, key contacts and SIC codes available.

eDirect.com™
targeted Opt-in email

BEFORE YOU WASTE ANOTHER MARKETING DOLLAR, CALL: 1 888 453 2362
OR VISIT OUR WEBSITE AT WWW.EDIRECT.COM
EMAIL US AT: SUCCESS@EDIRECT.COM



MARKETING

serve specific ads to specific individuals whenever they shop a certain category or particular site, essentially "tailor-making" ads. These banners or pop-ups feature coupons, rebates, product bundling, and so on. It's highly targeted, direct Web marketing—in many ways, the original promise of the Internet.

But is the agent-as-pirate model enough to base an entire business on? It just might be. Gator's revenue comes almost entirely from clients' direct marketing campaigns. A minimum test campaign starts at $30,000, and for some clients, fees run into six figures.

The fees seem worth the price advertisers must pay. According to Scott Eagle, Gator's chief marketing officer, the site's click-through rate ranges from 10 percent to 14.7 percent. Eleven percent of users who click on an offer complete a transaction. And a Media Metrix analysis done for the company in October showed that Gator's active shopping population is approximately 33 percent more likely to complete a transaction than the average Web shopper.

Results like these have the advertising community taking note. Within the first 120 days of Gator's target-marketing launch in August, more than 45 companies, both online and click-and-brick, had signed up. Gator's partner agreements, tailored for the client, can be based on cost per thousand, cost per click, cost per acquisition, or a hybrid pricing model.

To date, Gator has gained more than 10 million registered users since its launch in June 1999. Dash lags with 1 million users since its inception in December 1998, but it has created additional revenue by licensing and co-branding its DashBar icon and by taking a small commission from a strong list of merchant partners. Gator jumped on the co-brand bandwagon with a December introduction of a First USA eWallet, a digital wallet for holders of First USA Visa cards. First USA is the world's largest Visa credit card issuer.

Click or close

Gator and rival Dash like to boast that their ads rise above the clutter of the hundreds of impressions users see each day. They do so by trying to determine what a consumer's online goal is, then offering a teaser. The process works like this:

A consumer goes to 1800flowers.com to buy a bouquet. Gator, which has been sitting resident in his system tray, slides in a small "offer companion" box from off-screen, offering $10 off flowers and gifts at FTD.com. If the user doesn't click on the box after a few seconds, the companion box enlarges, provides offer details, and allows the user to choose between clicking on the offer or closing the box. He can also check a box so that Gator never shows him that particular ad again.

Shopping agent Dash works a little differently. To take advantage of its "personal shopping assistant," a consumer has to allow a DashBar to sit on the bottom of his screen throughout his Web surfing. That takes up a bit of real estate. If the user were to visit FTD.com, a message from off-screen slides into the DashBar saying, "Dash saves you six percent when you shop at www.1800flowers.com instead!"

It's highly targeted, direct Web marketing—in many ways, the **original promise** of the Net.

As for their clients, Gator's and Dash's customers tend to be industry-category rivals, all of whom try to tempt customers away from the other. Clients of Gator versus Dash, respectively, include Best Buy and 800.com; Sears and JCPenney; Foot Locker and TheSportsAuthority.com; and OmniSky and Expedia. KBkids.com and OurHouse, though, have signed with both companies.

Browser buddies

So what makes Gator and its rivals think that users will continue to tolerate the interruption of pop-ups—even if downloaded by the users themselves? The reasons are threefold. First, the plug-ins really save consumers money through rebates, discounts, and reward programs. Second, many of the targeting services are wrapped within a friendly customer-oriented application, often a "form filler" or "wallet," that makes shopping the Net easier by filling in login names, passwords, and shipping and billing data with a single click of a mouse. Third, the utilities allay privacy fears by maintaining strict standards, and by giving users plenty of control over what information is shared.

As Gator explains on its site, "We don't know your addresses and phone numbers. We don't know your credit card numbers (they are stored on your computer). We don't know your last name. And we don't know your user names, passwords, or login IDs for the sites you visit."

Another example is that Gator users need to opt in, not out, to receive offers from third-party companies.

Depending on the company, online companions can also assist users with product research, price comparison, one-click shopping, merchant evaluation, receipt capture, even a scrolling stock ticker. Gator, for its part, says it wants to earn the users' loyalty and trust as a "buddy" or a "best friend" on the Web.

Steve Jurvetson, managing director of Draper Fisher Jurvetson in Redwood City, Calif., sees the targeted pop-ups as an opportunity to capture customers where traditional banner advertising fails. "Think about companies like Catalina Marketing in grocery retail," he says. "That's a company that makes a pretty good living off of these little paper coupons whenever you buy a product. So if you buy Coca-Cola, you get a Pepsi coupon, and if you buy Pepsi, you get a Coca-Cola

Gator wants to earn users' loyalty and trust as a buddy or **best friend** on the Web.

coupon. It's post-purchase, it's reactive, and it's making them a ton of money. To think that you can do that real-time, proactively, *before* a purchase has just happened, is a pretty catalytic event for changing the way commerce is done on the Web."

But nipping at the heels of a client's competitors is not Gator's only focus, Eagle says. "It's not just about luring," he says. "In fact, more often than not, it's about whispering in their ear something they ought to know about in context of where they are." More than half of Gator's sales are directly tied to category expansion. "Showing people and teaching people about [online payment service] PayPal when they're at eBay facilitates an eBay sale *and* it gets us a PayPal sale."

Because Gator knows users' buying habits down to the click, it also is able to cross-sell and up-sell to a user *within* a client's site. But it's the pan-Web tracking history that brings synergies between previously unrelated clients into play. "We have a relationship with the consumer across the Web, not just on [a client's] site," Gator's Eagle says. "We have visibility into the kinds of things our partners can bring to their consumers. And the model is working. People who said it can't be a win-win with merchants, consumers, and promotion folks like Gator are wrong."

Customization next

Gator says it is aware that it has to keep users happy in order to retain advertisers. So the company is working on "preference engines," to be rolled out this year, that will allow users to choose how aggressive Gator is, which categories they like and don't like, and where pop-ups should appear on screen. "You ought to have that ability [to customize]," says Eagle, especially since the program is "two clicks away from being removed from the desktop permanently."

Despite the promise of services such as Gator, any company in the contextual advertising field, thanks to the contraction of online retailing, faces an uphill climb. AllAdvantage, for example, must run ads frequently enough—targeted or not—to finance the cash payments it makes to users. The free ISP model on which NetZero is based is not predicted to last much longer. Besides, the business models of both tend to appeal to a less affluent user base, which makes it difficult to attract top-tier advertisers. As for another wannabe in the space, iChoose, the fight is already over. The company stopped supporting its product late last year.

The good news for Gator? Less competition for big-name advertisers. Every time an entrant falls away, it is easier for Gator.com to protect its territory. The company hopes it can withstand a weaker business environment, and that the market won't bite back.■

JOANNE R. HELPERIN (JOANNEB2@MEDIAONE.NET) IS A LOS ANGELES–BASED CONTRIBUTOR TO *BUSINESS 2.0*.

Save the Date!
For agenda and registration information visit **Business2.com**

BUSINESS2.0 introduces the
evolution Series
SPONSORED BY IBM

May 9-11, 2001
Disney's BoardWalk Hotel
Orlando, FL

CHART YOUR COMPANY'S EVOLUTIONARY ROADMAP TO SUCCESS

Business 2.0 | INSIGHTS THAT STICK.

MARKETING

Ol' College Pry

For the cost of a few T-shirts and other giveaways, many marketers find they can collect all the young-adult customer information they want. **BY ALISSA QUART**

What does it take to get 200 Brandeis University students to surrender their email addresses and other personal information to your company in a single day? Last semester it cost KangarooNet.com only the price of some mouse pads and T-shirts.

On that day two freshmen at the Waltham, Mass., university sat at a table covered with freebies, trying to entice fellow students to stop by. "Did you fill out this form, Becky?" one freshman, Alison Brown, 18, called to a dark-haired woman darting across campus. "Sign up, Rob!" cried the other freshman, Maggie Pawlawski, 20, to a guy in granny glasses, running to class. "I know you're late, but it will only take a sec!"

Some students ignored the women, but many others paused to write down their email addresses, majors, and other personal information.

By the end of the day, Brown and Pawlawski were ready to deliver the completed forms to KangarooNet, a maker of Web-based research applications and a client of The Magma Group, a youth marketing firm in Brighton, Mass.

www.magmagroup.com

Not a bad day's work, considering neither freshman had ever marketed anything before.

But Brown and Pawlawski weren't just working for KangarooNet; they were also raising money for spring break. The student marketers were members of the school's rowing team, which received a dollar from Magma for each signature and email address they collected.

This way to aggregate marketing data has a name: *peer-to-peer marketing*. It's gaining popularity among research outfits such as Magma and its clients, who are trying to find ways to reach and research teenagers and college students.

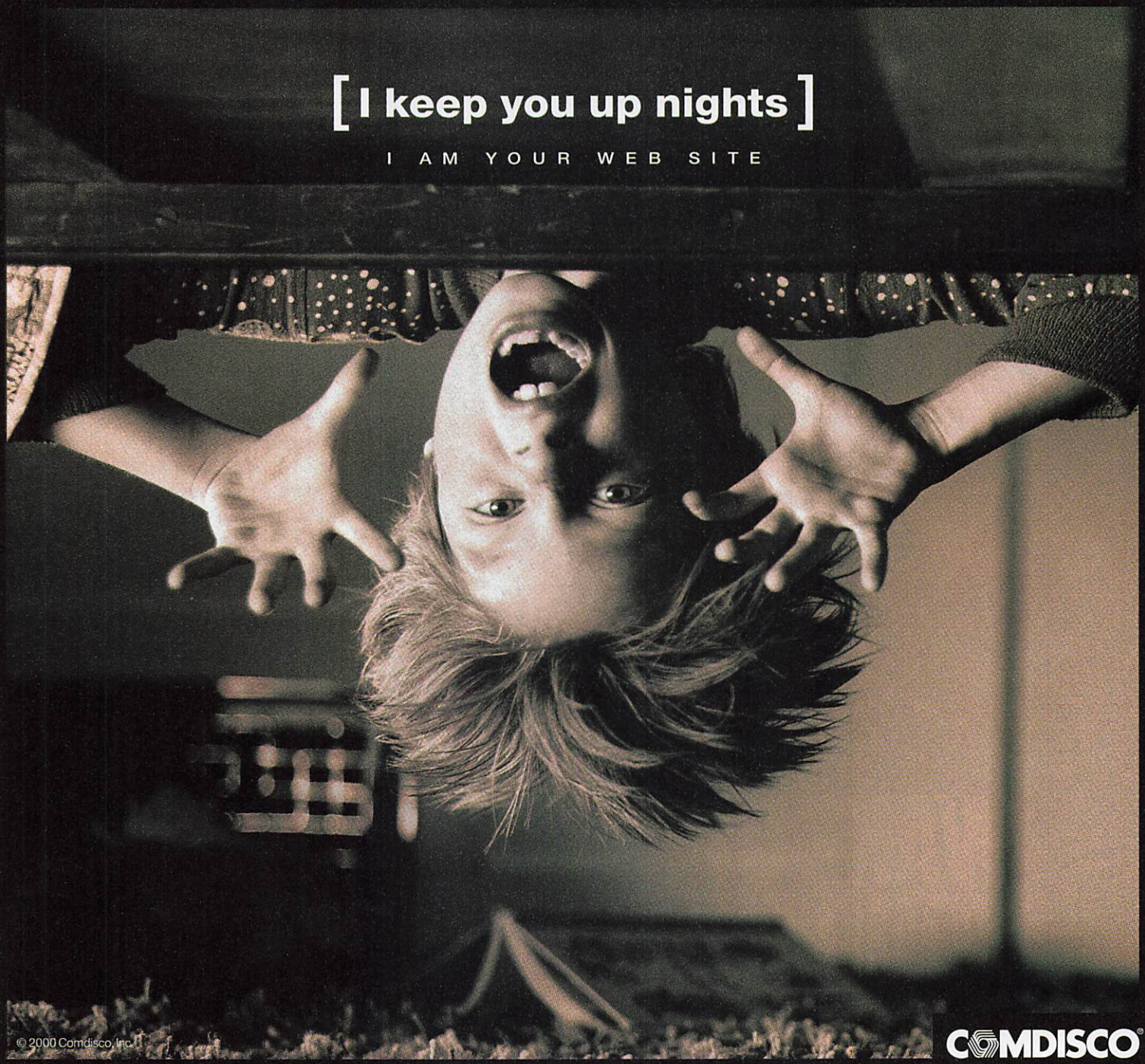
ILLUSTRATION: AARON MESHON

The rewards for those who succeed are considerable. U.S. teenagers spent $153 billion in 1999, according to Northbrook, Ill.–based Teenage Research Unlimited. And the Student Monitor, a Ridgewood, N.J.–based student marketing firm, reports that the collegiate population spends $60.8 billion per year on products from books, food, and clothing to cell phones.

Most companies that recognize the potential of these markets have flooded the Internet with campaigns aimed at students. But Matt Britton, vice president of marketing for The Magma Group, and others say that marketing offline and on-campus is a more effective way to get student attention. It's uncluttered, direct, and personal.

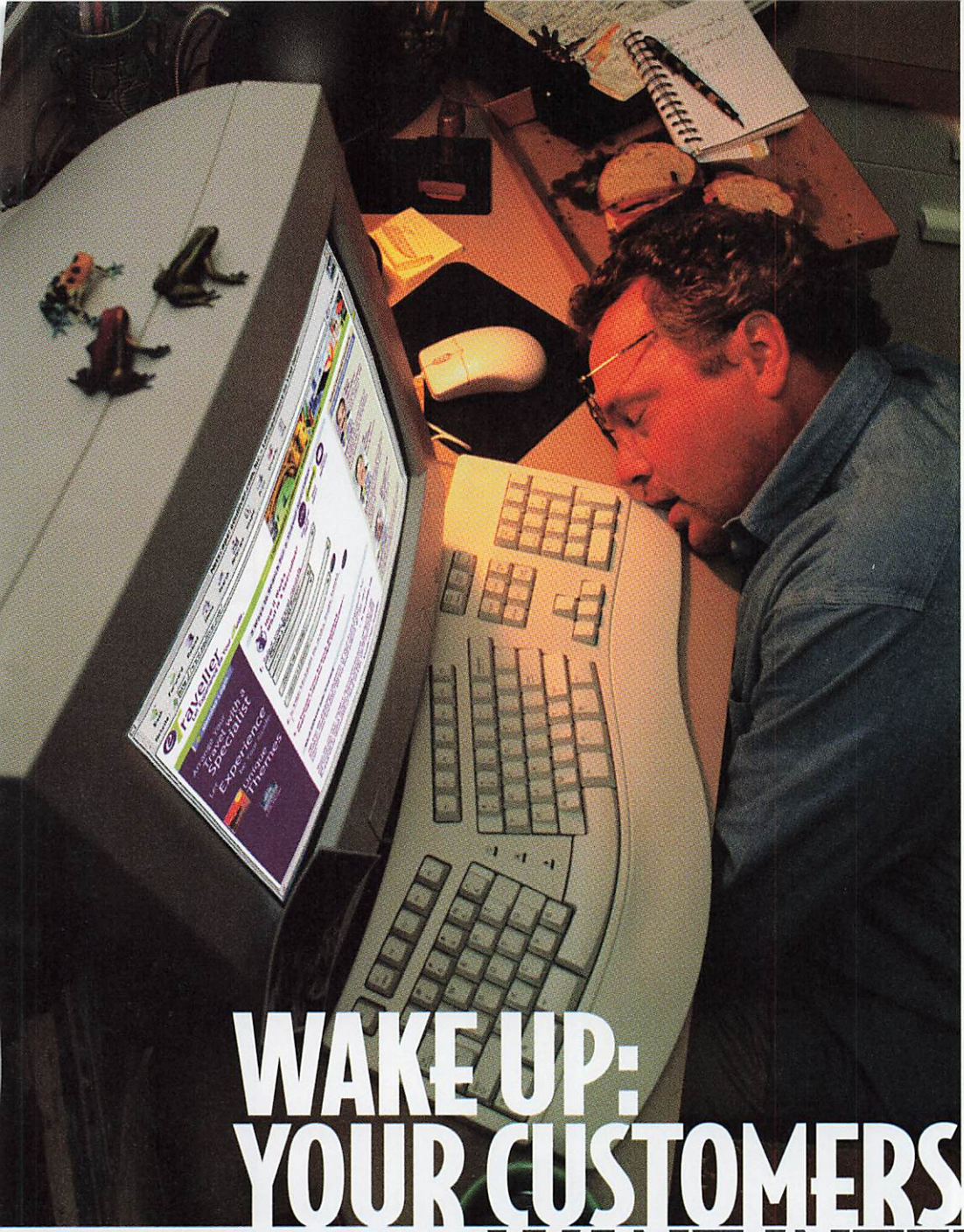
As Brandeis senior Steven Pickman, 22, put it while filling out a KangarooNet form last fall, "I don't have to give them any money, I get a free T-shirt, and if I am interested in the product, I'll get an email about it and find out more."

Direct and personal, sure, but peer-to-peer marketing is also cheap. Most peer programs



The issue is availability: Your web site's acting up again, your customers want access to your business, and all you want is sleep. What you need is an availability partner you can trust. A partner with 20 years of technology services experience and 50 worldwide technology centers. Not to mention a perfect track record in providing availability. That partner is Comdisco. Delivering the promise of technology.

To ensure your site's total availability, visit www.comdisco.com/webavail/



WAKE UP: YOUR CUSTOMERS WANT INTERACTION

IT'S LONELY OUT THERE...

M>WebTouch can engage your site visitors. By targeting viewing interests and interacting with web visitors in real time, M>WebTouch can help you achieve the following:

- Analyze Marketing Trends
- Increase Sales
- Improve Support

Want to know your visitors? M>WebTouch dynamically builds profiles based on customer interests and presents this information to your agents to increase their efficiency. M>WebTouch captures a record of where/how they entered, pages viewed, exit page and the amount of time spent. Now when you interact, you do so well informed.

M>WebTouch combines leading-edge Internet technology with human interaction. Now you can make your Sales, Marketing and Customer Service initiatives much more successful.

To arrange a demonstration and for further information call **1-877-MATRAnet** or email us at: **info@us.matranet.com**

M>WebTouch helps you:

Track and monitor web traffic real-time
Provide personalized interaction; email, Live Chat, Phone,VoIP
Route visitors to the right resource

MATRAnet

1-877-MATRAnet
www.matranet.com/b2promo

EADS
European Aeronautic Defence and Space Company

Copyright 2000 MATRAnet, Inc. All rights reserved. MATRAnet logo is a trademark of MATRAnet, Inc. or its subsidiaries. Other company and product names trademarks of the companies with which they are associated.

Offices in USA, France, Singapore, Spain and through over 70 resellers worldwide.

run by Magma, for example, cost clients between $25,000 and $300,000.

Student workers don't add much to that total. Like the Brandeis freshmen last fall, they might be paid a buck or so for each completed form. Or they get "paid" in merchandise—the same T-shirts, pens, and mouse pads used to lure classmates to fill in data forms. And because students who participate in the programs raise money for collegiate activities, neither research firms nor their clients have to rent space on campus. At Brandeis, this saved Magma $125 per day, helping to reduce its client's fee.

Status matters

Peer-to-peer also tends to be more effective than other marketing methods aimed at the demographic. That's because young people are more willing to disclose personal information to their peers than to adults, marketers say.

"College students suspect a 'suit' on campus but are willing to make the trade-off of privacy for information about a product when presented by a peer," says Magma's Britton. "Unlike 40-year-olds, college students are not cynical. They are making their buying decisions for the first time."

What's more, giveaways tend to draw people in and get them talking about the product or service, however casually. "Products that enhance social status, or are perceived to have status, are successful in winning students over," says Doug Stewart, president of Youth Culture, a teen-oriented advertising strategy company in Toronto.

Stewart says the social nature of peer-to-peer makes it effective. "The No. 1 thing that teens do with their time is spend it with their friends," he says. "What a great opportunity if you can develop a channel that takes advantage of teens' favorite pastime."

The Magma Group's 6,000 student-organization teams, dispersed throughout 750 colleges, achieve the kind of results that make most marketers swoon. Last year, Purdue University's Phi Mu sorority brought in 2,290 email addresses, for example, and Clemson University's field hockey club snagged 1,165 forms, gathered at sign-up tables loaded with homemade cookies or lollipops as enticements.

Other Magma strategies, for clients such as eBay, Sony, Lycos, and Evite, include students knocking on dorm doors and polling for information in cafeterias. Clients pay Magma about $3 per name.

The Washington, D.C.–based Varsity Group's VarsityBooks.com, a college books site, has taken a different peer-to-peer tack. It has organized an affiliate program in which student affiliates email a VarsityBooks.com link to friends and classmates. Affiliates get 5 percent on any purchases their peers make at the site as a result of the emails they send.

Selling stuff to all your college buddies —that's now called "peer-to-peer."

Bolt, a New York–based Website for teenagers, has a mini-army of Bolt reps, 100 15- to 20-year-olds, who encourage other teenagers in their communities to register as Bolt members. Reps also pass out Bolt-branded freebies at diners, schools, skate parks, and malls. They report back to Bolt on events for teenagers in their towns and identify local "cool" locales where Bolt can promote itself.

www.bolt.com

Brandon De Hoyos, a 16-year-old Bolt rep, lives in Houston. After he first "became addicted" to Bolt last year, he signed up for the program. He doles out Bolt stickers and rubber-band bracelets at events and is paid for his labor only in similar freebies.

But De Hoyos isn't in it just for the stuff. "I've learned how marketing works as a rep," says the high school junior. His hobby is making horror and science fiction films, so De Hoyos says he has learned skills that he will use later to sell his movies. "It has cracked my personal shell," he says. "Now I am able to talk to anyone and to get the word out about a product."

That would appear to be so. De Hoyos' efforts have resulted in 1,000 emails from fellow students who indicate they have visited Bolt. He has hawked the site at music venues in Houston, at the mall in front of teen hive Old Navy, and in his school's auditorium during auditions for plays. But the eager rep is also writing a report for Bolt on other locales where it can stage marketing events.

"Our phenomenal growth in member registration is attributed largely to viral efforts," says Bolt CEO Dan Pelson. Bolt says it averaged about 5,000 new user registrations per day during the past two years, and now has more than 4 million total registered users.

Peer pressure

Of course, peer-to-peer is not an instant recipe for success. The strategy was key to the marketing plan for Kibu.com, the now-defunct site for teenage girls. The company sent street squads to the top 10 markets to hand out incense, tea bags, and branded lip gloss. The efforts did little, however, to build online traffic. Kibu burned through $15 million in 46 days before folding last fall.

But for companies with a solid business model, peer-to-peer marketing remains an attractive new method for researching young people. "Teenagers function almost in a tribal manner, especially today, and they are extremely vulnerable to the opinion of their peers," says Diane Pacom, a sociologist and professor at the University of Ottawa who specializes in youth culture. "Using their peers to sell them products makes sense because that's exactly what happens in real life."■

ALISSA QUART (AQUART@IBM.NET) IS A FREELANCE WRITER BASED IN NEW YORK.

MARKETING

You know your Website is serving pages. But is it serving your company?

Making Metrics Count

JIM STERNE

"Your Website has been live for a while, and it's time to tell the CEO how the site is doing. Without much trouble, you can tell the boss how many people show up and how many pages they look at. You can show him or her some pie charts indicating which pages are the most popular, and what time of day most users scrutinize your site.

In short, you know your site is serving pages. Now is the time to examine how well it is serving your company.

The difficulty in performing that analysis: Nobody has a firm handle on what standard accounting practices look like online. What exactly is a pageview? How do you define stickiness? What's the difference between abandonment and attrition? You may have a clear idea.

But try comparing your numerical results to those compiled by others groups in your company, and you'll find that each group has used different standards, metrics, and measurements.

First, the vocabulary

So, you need to standardize those metrics. The first step is to determine and *publish* your goals. Get everybody heading in the same direction. Nobody said herding cats was easy, just necessary. Get feedback from all stakeholders in your organization and, most especially, upper management.

Keep in mind that the ultimate goal is to measure the effectiveness of moving people through the customer life cycle—from suspect, to prospect, to novice customer, to seasoned customer, to company advocate.

To measure all that, you will want to start thinking in terms of these concepts:

Reach. The percentage of the possible audience you are able to touch with your attention-getting promotion. What is the cost per impression and, more important, the cost per lasting impression?

Acquisition. That point when you have engaged a prospective customer in a dialogue as opposed to merely getting his or her attention for the moment. How much do you have to spend to get a qualified prospect on your site?

Conversion. Refers to the moment customers buy, but it can also refer to signing up for a seminar, joining a discussion, subscribing to a newsletter, etc. Cost per conversion should top your list of important numbers to track.

Abandonment. Customers were part way through the buying process but went away without hitting the "submit" button. Why did this happen? Is it your price? Your navigation? Your sluggish server?

Retention. You want customers to buy from you again and again. If it costs a lot of money to attract customers, why aren't you tracking what makes current customers leave, and focusing on ways to keep them coming back?

Now, the math

Once you decide to measure the customer life cycle, you'll need to do the math. Here are a few formulas, for these and other important metrics:

Acquisition cost=

$$\frac{\text{Advertising and other promotional costs}}{\text{number of click-throughs}}$$

As an example, say you spend $30,000 on an ad campaign buying 1 million impressions. It achieves a 0.05 percent click-through rate resulting in 5,000 visits. So, your acquisition cost is $6 per person.

Conversion cost =

$$\frac{\text{Advertising and promotional costs}}{\text{number of sales}}$$

Using the same example, if 5 percent of your 5,000 visitors buy something, you have made 250 sales, at a conversion cost of $125 per sale.

Freshness factor =

$$\frac{\text{Average content area refresh rate}}{\text{average session visit frequency}}$$

A freshness factor of less than 1 means customers see stale content. They visit more often than you change your content.

A freshness factor greater than 1.5 means your content changes more often than visitors show up to view it. That means you are wasting resources.

Personalization index =

$$\frac{\text{Number of profile elements in customer interaction}}{\text{number of profile elements collected}}$$

A personalization index bigger than 0.75 shows that you make the most of the information you collect. Smaller than 0.30 shows that you collect more information than you need, wasting resources and possibly annoying visitors.

First purchase momentum =

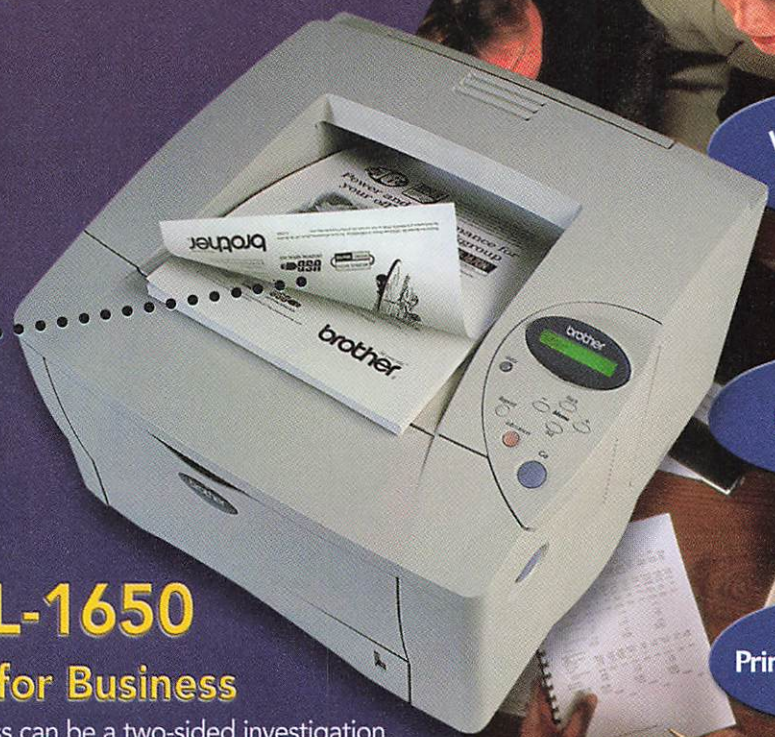
$$\frac{\text{Required clicks to first purchase}}{\text{actual clicks to first purchase}}$$

You can count the exact number of clicks required to make a purchase, starting from your homepage. But visitors don't know your site as well as you do, and are likely to make mistakes. Counting up the actual number of clicks-to-purchase, and comparing it to the minimum requirement to buy something, gives you valuable information about the clarity of your navigation. Reducing the first purchase momentum will increase sales.

Every click added to the persuasion and purchasing process increases abandonment.■"

JIM STERNE (JSTERNE@TARGETING.COM) IS A SANTA BARBARA, CALIF.-BASED MARKETING CONSULTANT. THIS COLUMN WAS ADAPTED FROM "E-METRICS: BUSINESS METRICS FOR THE NEW ECONOMY," A WHITE PAPER WRITTEN BY STERNE AND MATT CUTLER OF NET GENESIS. A COMPLETE VERSION OF THE WHITE PAPER CAN BE DOWNLOADED AT *WWW.NETGENESIS.COM*.

Page Turning Technology. Head Turning Design. Budget Straightening Price.



BUILT-IN DUPLEX PRINTING

Fast Printing up to 16ppm

Works with PC or Mac

3-Color Backlit LCD Display

Full Speed Printing at HQ1 200 Resolution

USB, Parallel and Ethernet* Connections

ntroducing The HL-1650

erformance Laser Printing for Business

eciding on the right laser printer for your business can be a two-sided investigation. /e know you're looking for innovation *and* performance, so at Brother, we designed ur new HL-1600 series laser printers to address both, at an unmatched value.

nese printers offer our unique 3-color backlit LCD display and built-in full duplex (as 2-sided) printing—bringing you one step closer to a paperless office. We included fast 6ppm printing, HQ1200 resolution and a standard paper capacity of up to 350 sheets. nd connectivity? We have that covered as well—with PC, MAC and network* compatibility.

/hether your laser printer needs are for a power-user or small workgroup, our new HL-1650 nd 1670N laser printers have all sides covered.

Starting At About $599

*Ethernet Standard on HL-1670N, optional on HL-1650

vailable At: Office Depot, PC Connection, DW, MicroCenter, J&R ComputerWorld, Insight, licroWarehouse, MacConnection, Fry's and lobal Computer Supply

For large, commercial account programs and bid inquiries, call (908) 252-3112

At your side.™

brother®

© 2001 Brother International Corporation, Bridgewater, NJ • Brother International Corporation, Nagoya, Japan

For more information please call the Brother Fax-Back System at 800-521-2846 or visit our web site at www.brother.com

Palm would be **sitting prettier** if it didn't have Microsoft—and the unpredictable Handspring—to worry about.

The Palm Phenom

"I don't like this product," Carl Yankowski says with a scowl. The CEO of Palm—by leaps and bounds, the world's No. 1 handheld-computer company—has his fingers wrapped around one of its most touted creations, a wireless Palm VII, which he likens to a "brick." A brick? No, worse. "A lump of coal!"

The Palm VII, it should be noted, was not introduced on the 52-year-old Yankowski's watch. Like the Palms III and V and the original PalmPilot, it was developed by the team of Jeff Hawkins and Donna Dubinsky, who are no longer on the premises. Fed up with 3Com, which owned Palm at the time, they bolted in 1998 to found Handspring, maker of the Palmlike—and increasingly Palm-threatening—Visor.

Find this story online
Internet Keyword:
B2.0 Palm Phenom
BUSINESS2.COM

PART ONE: PALM
76 HISTORY OF THE HANDHELD
78 THE PERFECT MODELS
79 MICROSOFT ALTERNATIVES
80 PALM MEANS BUSINESS
81 PALM PERIPHERALS
81 PALM SOFTWARE

PART TWO: HANDSPRING
82 HAWKINS TALKS
86 HANDSPRING MODULES

WRITTEN BY KIM GIRARD
PORTRAIT BY KLAUS SCHOENWIESE

"I'm in control here."
Palm CEO Carl Yankowski eyes a new add-on that turns a Palm into a camera.

Hawkins, who exudes gosh-shucks innocence and looks a good deal younger than his 43 years, is taken aback by Yankowski's ridicule: "He said that? Why would he say that?" But an impish smile soon returns to his face—and he's entitled, because Handspring is taking a large bite out of Palm's hide. In recent months, Handspring's market share has hovered around 15 percent—an impressive achievement for a product that didn't reach retail outlets until last April. (It was sold online for six months before that.)

With 11 million devices sold to date, Palm is regally dismissive of the idea that Handspring is a rival. After all, Yankowski points out, Palm is selling every unit it can turn out. It's also collecting about $8 on every Visor sold—more than a million so far—as a license fee for the Palm operating system, whose principal author, ironically, was Hawkins. It's a relationship that might best be described as semi-friendly co-opetition.

And the market for handhelds is exploding: $2.3 billion in sales last year and a projected $3.7 billion this year. Palm is expected to post a $60 million profit this year on sales of about $2 billion. The company has $743 million in cash and a market cap of nearly $13 billion—roughly equal to Nike's. The money is flowing because the phenomenon Hawkins started is sweeping the industrial world, creeping onto subways and into shopping malls and classrooms. Anybody with the means and the slightest shred of technical savvy, it seems, is either buying a handheld, seriously thinking about it, or being pestered by their information-age friends and white-collar colleagues to dump their paper datebooks and get with the program. There are "deep-rooted psychological reasons" for the appeal of a technology that puts so much power into a person's grasp, says Eric Benhamou, chairman of 3Com (and the chairman of Palm). "It's a device that's easy to fall in love with."

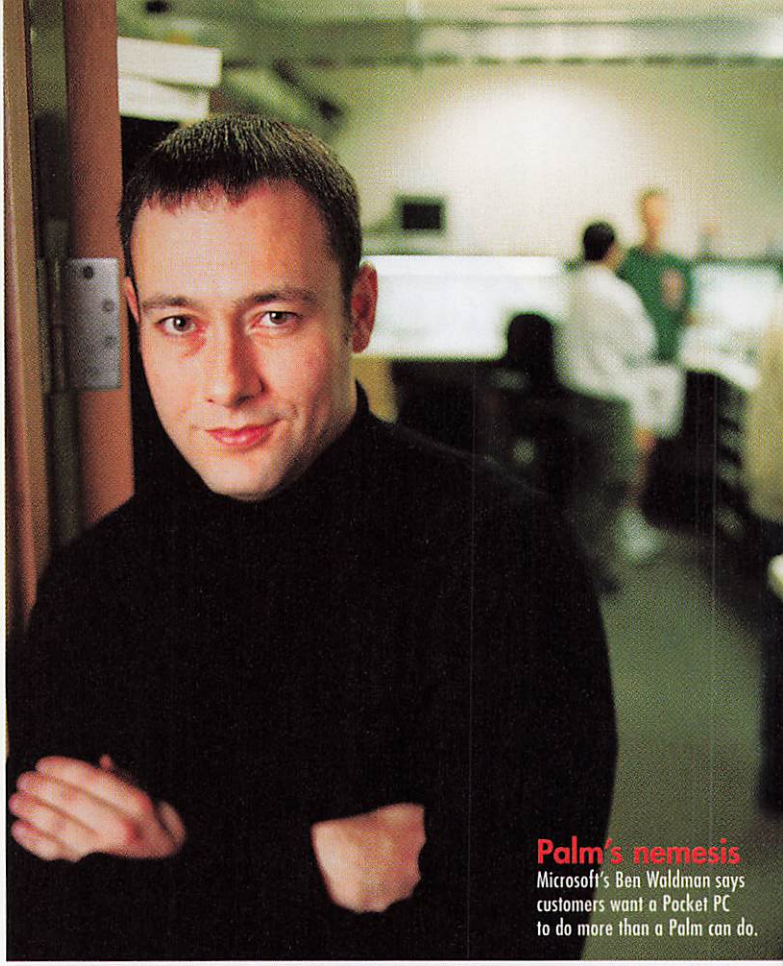
Phenomenon
The original PalmPilot sold faster than the VCR, the color television, the cell phone, and the personal computer. Within 18 months, more than a million Palms were sold.

So it might seem that Palm has got it made. But if Yankowski isn't paranoid, it could behoove him to start acting that way. With the advent of MP3, digital photography, and handheld computers that double as cell phones and messaging devices, the market has become far too volatile for Palm to take its dominance for granted. And some observers say that Handspring is in a better position to move into these new realms, thanks to a slot on the back of every Visor that accommodates an assortment of feature-enhancing Springboard modules.

If Springboard takes off, it could become Handspring's best asset, lessening the company's reliance on the Palm operating system. The whole point of Springboard, according to Thomas Sepenzis, a financial analyst with CIBC World Markets, is to license it to other companies. "I don't know that Microsoft would be the first one," he says. "It wouldn't shock me." People who have followed Hawkins' career wonder about his own loyalty to the Palm OS; some even speculate about a deal with Microsoft that could lead to a new line of Handspring devices running some form of Microsoft's handheld platform, Windows CE.

It's a rumor Hawkins pointedly declines to deny. "Hawkins is crippled by the Palm OS," says Rob Enderle, an analyst with the Giga Information Group. "He's throwing cameras on this little puppy. It's not designed for that."

Microsoft certainly sounds agreeable. "Right now, Handspring makes a better Palm than Palm," says Ed Suwanjindar, a product manager in Microsoft's mobile devices division. "And if you look at


Palm's nemesis
Microsoft's Ben Waldman says customers want a Pocket PC to do more than a Palm can do.

History of the handheld

1984 Psion debuts the Organiser, based on Psion's 8-bit OS.

1987 Sharp introduces its first electronic organizer, a clamshell device with a keyboard.

1988 Jeff Hawkins builds the first pen-based computer program for GRiD Systems, which releases the GRiDPad.

1989 The Atari Portfolio debuts. It's a handheld that's about the size of a video cassette. It goes the way of Pong.

1991 Hawkins works on Zoomer (short for "con-zoomer"). He tries to sell the idea to GRiD and Tandy.

1992 Hawkins leaves GRiD to found Palm Computing, quickly bringing in former Apple Computer executive Donna Dubinsky to tackle sales and negotiations.
• Apple's former CEO John Sculley uses the term personal digital assistant (PDA) for the first time.

1993 Apple's Newton is released. It's a flop. Bad handwriting recognition and high price tag make it a subject of ridicule and kill sales

where they're going, we think the Pocket PC platform would be a great one for them."

It's hard to imagine Hawkins, with his large ambitions, playing the subservient role of the typical Microsoft licensee. But even without such an alliance, the Pocket PC's market share, now a meager 10 percent, seems destined to grow with the latest group of products built by Hewlett-Packard, Compaq, and Casio. One industry analyst, Kevin Burden of IDC, expects Microsoft and its hardware allies to command nearly 40 percent of the market within three years. While they've moved forward, Palm has taken an "if-it-ain't-broke-don't-fix-it stance," Burden says. "They're finally doing [version] 4.0. How long did that take?"

Catching up at all costs is a familiar approach for Microsoft, and some wonder if Palm can play in the same league. But others worry about what the company might do to itself in the heat of pursuit. Under Hawkins and Dubinsky, Palm kept its products simple, refusing to play the game of something-for-everybody. Except for the slow-selling Palm VII, what the company makes is essentially an electronic Filofax planner with four clearly marked buttons: calendar, address book, memo pad, and to-do list. Consumers could transfer their loyalty elsewhere if Palm succumbs to what usability consultant Donald Norman calls "feature-itis" and ends up with a product that is "bloated, fat, and clumsy."

Yankowski insists that Palm can adapt and stay simple at the same time. The trick, he says, is to treat new features as optional add-ons rather than embedding them in the basic product. That means relying on the much-vaunted "Palm economy" of hardware licensees and independent software developers.

Since last fall, Palm has reached agreements with Samsung, Kyocera, and Sprint for phone products, and with Garmin for a GPS navigation device. Version 4.0 of the operating system incorporates email notification and telephony capabilities, and Palm and its licensees will soon ship units that combine personal information management with an MP3 player, a digital camera, and streaming audio and video. Indeed, a visit to Palm's Santa Clara, Calif., offices these days can turn into a tour of some of the more far-out uses to which these gadgets can be put.

"We are truly fanatical," says Ted Ladd, Palm's buttoned-down and eager-to-please lead platform evangelist, who carries a blue Palm Vx. When two employees meet for the first time, they beam their business cards to each other. During executive meetings, appointment alarms chirp like crickets, and no one has to hunt for a battery-recycling bucket—they're as common as coffee machines. Employees speak of using their Palms as door-entry devices or for wireless credit-card payment at cash registers.

Over coffee, Ladd ticks off all the neat applications he has loaded on his Vx lately. Among them: Nicholas Sparks' *Message in a Bottle;* Dietlog, to track his calorie intake; Note Pad, for jotting diagrams and directions; PhotoSuite by MGI for pictures of his wife and dog; MultiMail for corporate and personal email; Yahoo! Messenger for instant messaging whenever a modem is attached; and, for business travel, an assortment of games that include Solitaire, Tetris, LodeRunner, and Mahjongg.

At Palm, the superiority of its OS and hardware design is gospel. Windows CE "isn't as repulsive as it has been in the past," Palm Chief Competitive Officer Michael Mace allows, with fairly typical charity. Palms, he adds, are simpler, lighter, faster, and more economical when it comes to battery life. Along with others inside and outside the company, he points to its network of 130,000 independent software developers (and the 2,000 or so who sign up each week) as a critical Palm advantage.

"If you want to do volume, you develop for the Palm OS," says Alexander Hinds, head of Blue Nomad Software, which makes back-up and word-processing programs. Hinds points out that Microsoft, unlike Palm, has no qualms about competing with its own developers. "We'd be insane to do word processing for CE," he says. "Even if you did come up with a nice application for CE, you'd always be worried that Microsoft would take a look and develop it themselves." The flip side is that Palm, fearful of stepping on developers' toes, may have been too slow to upgrade its calendar and other

A cult following

RIM has sold about a half-million of its BlackBerry two-way wireless email devices in the past 18 months. The device has become the darling of anyone who craves constant notification of email. The Sony CLIE has a fanatical following, but it hasn't sold as well.

BLACKBERRY RIM 957 WIRELESS HANDHELD
PRICE: $500 **SPECS:** Built-in wireless modem, keyboard, BlackBerry nationwide email service.
WHY: Dedicated wireless email tool makes it easy to manage mail on the road.

SONY CLIE HANDHELD
PRICE: $300 **SPECS:** Memory Stick slot to expand to 64MB, Palm OS.
WHY: Smaller than a Palm. Has scroll-wheel navigation.

1994 Hawkins creates Graffiti and decides to make a pocket-sized personal information manager (PIM) for consumers.

1995 Palm Computing acquired by U.S. Robotics.

1996 U.S. Robotics rolls out the Pilot 1000, jump-starting the handheld market.

1997 3Com buys U.S. Robotics for $8.5 billion in stock.
- Sharp Electronics debuts its Mobilon, based on Microsoft's Windows CE operating system.

1998 Hawkins and Dubinsky leave Palm to start Handspring.
- Apple kills the Newton.
- Microsoft unveils its first palm-size Windows CE device.

1999 Palm ships its sleek Palm Vx and wireless Palm VII models.
- Handspring introduces its first Visor.

2000 3Com spins off Palm in March IPO.
- Handspring goes public in June, raising $200 million. The company sells its millionth Visor handheld and its first VisorPhone Springboard on eBay.
- Microsoft releases third version of Windows CE. Compaq's iPaq, running Windows CE and sporting a color screen, becomes a must-have tech toy.

2001 Kyocera Wireless and Samsung debut a sleeker second-generation version of the Smartphone based on the Palm OS. Annual worldwide PDA shipments are expected to reach 9.4 million this year and are projected to reach about 19 million worldwide by 2004, according to IDC.

COMPILED BY WARREN HAHN AND KIM GIRARD

Theperfectmodels

CELEBRITIES SMACK DOWN THE NERD IMAGE

When the celebrity identified most often with your product is Al Gore, you have a hipness problem. Palm's solution: supermodel Claudia Schiffer. The blonde who once was engaged to magician David Copperfield isn't as cool as, say, Puffy Combs, but attaching her name to the gadget is a clear move away from the plastic pocket-protector set.

Schiffer has said that the $400 aqua-colored anodized aluminum Palm Vx is "really fashionable." She includes software no supermodel wannabe should be without: city guides to London and New York, a diet program, and an application that (and we are not making this up) converts the screen to a mirror.

This is not a celebrity endorsement, Palm hastens to point out; it's a "business arrangement." PTN Media, a publicly traded Ann Arbor, Mich., concern, has an exclusive license with Schiffer to use her name and likeness to sell the Palms on Schiffer's site. (Schiffer gets royalties of at least $1.2 million.) PTN recently inked a similar deal with basketball great Michael Jordan. (His Airness will get 12 percent of sales or a minimum of $3.5 million.) Palm says it has been approached by "high achievers in many disciplines"—music, sports, and entertainment—and is now evaluating them to see if they will expand Palm's demographics. While Palm considers the offers, we have a few suggestions of our own:

The Stephen Hawking: Comes with 256 terabytes of processing power.
The George W. Bush: The screen goes dim, at least in the hands of Democrats.
The Jennifer Lopez: An alternative form factor.
The Robert Downey Jr.: When it's not locked up, it's in recovery. But it keeps working.
The Ricky Martin: Is it Palm OS or Windows CE? No one knows for sure.
The Donald Trump: It keeps trying to "HotSync" with the Claudia Schiffer model.

Not a nerd
Schiffer: "It's really fashionable."

bundled applications. In the pre-Yankowski period, Palm "lost a few years" of progress on the OS, says Ken Dulaney, an analyst with Gartner Group.

In its choice of Palm's new CEO, certainly, 3Com cannot be accused of being boring or predictable. An MIT graduate who has run divisions at Sony and Reebok, Yankowski has wavy hair, a pudgy face, and a rich extracurricular life, which he is not shy about discussing. In an hour-long interview, he manages to mention his membership in 26 flying clubs around the world, the sand pit in Nantucket where he taught his wife to shoot a CIA assassin's pistol, and the former artichoke farm that they're fixing up in Dover, Mass. Getting Yankowski to talk about Palm and some of the current issues facing the company is, in contrast, a bit of a challenge. "We haven't gotten around to media-training him yet," says Bob Angus, head of Palm's PR agency, A&R Partners, a little wearily.

Yet some give Yankowski credit for getting Palm back on track after two years in which the company went through three different chief executives. 3Com, according to Benhamou, saw Yankowski as someone who could assemble a new senior team at Palm and spin off the division, without trying to micromanage. Hawkins and Dubinsky had the technology and marketing skills for Palm's startup phase, Benhamou argues. What they lacked was the savvy to build a "multibillion-dollar operation."

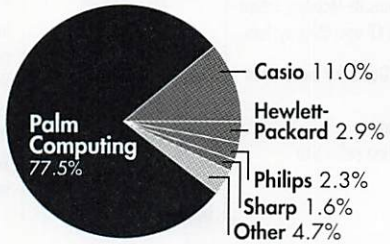
A man of no small ego, Yankowski wants it understood that he is not just another corporate bureaucrat following in the footsteps of a legendary innovator. After taking over in December 1999, he devoted

Microsoft of the Handheld World

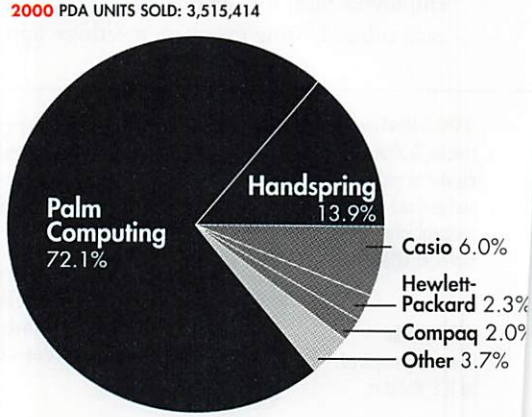
Palm's own products still hold a commanding share of the market. Add in Handspring's Visors, and the Palm OS is even more dominant—for now. (Source: NPD Intelect)

Share of PDA market by manufacturer and operating system
- Palm OS
- Windows CE
- Other operating systems

1999 PDA UNITS SOLD: 1,347,185



2000 PDA UNITS SOLD: 3,515,414



his first months to taking the company public—something Hawkins and Dubinsky had sought in vain. Eager to make his mark, Yankowski also found time to shepherd the development of the new OS and the conversion to a heavier-duty processor for more complex applications. "I'm in control here," Yankowski declares, in answer to a question about the January exit of Chief Technology Officer Bill Maggs, the company's celebrated "big thinker" who was supposed to be drawing a road map of Palm's future. "There's nothing going on in the company right now that I don't want to have going on in the company."

Meanwhile at Microsoft

Up north in Redmond, Wash., Microsoft's mobile division has had its share of turnover, too. In the four years preceding the Pocket PC launch, the company released, with great fanfare, two versions of its OS that were almost universally reviled for their PC-like complexity. But Ben Waldman, the vice president of the mobile devices division (who replaced Harel Kodesh in the latest personnel shakeup), insists that Microsoft is finally getting it right. "Palm has been feeding people this bullshit story for so many years about how everything should be so simple," he says. Palm, Waldman wryly notes, now seems to regard a color screen as an acceptable amenity for a handheld computer. So why not also the ability to surf the Web or watch a video?

Microsoft, of course, has a long history of beating competitors at their own game (Lotus, Apple, Novell, and Netscape come to mind). The Pocket PCs already come with a media player, a feature that has struck a chord with software developers, game creators in particular. "CE is definitely in our future," says Chris Neff, director of sales and marketing for LandWare, an Oradell, N.J., company known for making Palm versions of financial-planning software Quicken and of the Zagat restaurant guides. Josh Turiel, the network-services manager with Holyoke Mutual Insurance, uses both a Palm and a Hewlett-Packard Jornada. But he notes the gulf between the two devices. The Jornada is easily expandable and has a better screen as well as the ability to handle media files and MP3. "The Palm does a hell of a lot less," he says.

Soap opera

Hawkins finds himself in an odd corner with his former employer. He has had dinner with Yankowski—once—and describes their relationship as cordial. Like other observers of the handheld market, though, Hawkins raises questions about Palm's ability to make innovative hardware and software while expanding its network of licensees. "It's two separate worlds, the licensing business and the hardware business," Hawkins notes. "They'll have to come to grips with that."

The problem is one that echoes the dilemma that faced Steve Jobs and Apple in 1997. Widely criticized for its refusal to share its OS with other hardware-makers, Apple finally decided to let several companies make Macintosh clones. But Jobs concluded that they were cannibalizing Apple's own sales, and he cut off his licensees. "If I were at

Licensees
Licensing, for now, generates less than 2 percent of Palm's revenue. But the company expects the proportion to increase. It also aims to earn significant revenue from its Palm.net content service, which costs from $10 to $45 a month.

Microsoft alternatives

With major appliance-makers backing Microsoft's OS for handhelds, some analysts think the devices are contenders.

HEWLETT-PACKARD JORNADA 548
PRICE: $500 **SPECS:** 32MB of RAM, CompactFlash Type I card slot, color display
WHY: Built-in RAM is much more than the Palm's standard 8MB. Uses Microsoft Windows for Pocket PC, considered a more vibrant and diverse operating system.

COMPAQ IPAQ H3630 POCKET PC
PRICE: $500 **SPECS:** Windows OS, built-in 32MB, built-in voice recorder, color display
WHY: Comes with suite of office software. Built-in memory is larger than standard.

CASIO CASSIOPEIA E-125
PRICE: $550 **SPECS:** 32MB of RAM, color display, CompactFlash modem card, Windows OS
WHY: Microsoft Pocket Word, Pocket Excel, and AOL mail come bundled.

COMPAQ AERO 1550 POCKET PC
PRICE: $300 **SPECS:** Windows OS, audio programs (MP3 player, voice recorder)
WHY: Only a half-inch thick. Microsoft Pocket Word and Excel come bundled. Cheaper than most competitors.

CE software

As the Microsoft-powered devices proliferate, developers are slinging the code. Here are a few of the most popular, useful, or just plain fun:

AIRCARD 400 BY SIERRA WIRELESS $329
Made for the Pocket PC, this wireless network card for the Ricochet 128kbps mobile network brings the Net to the handheld at ISDN speeds. Ricochet is extending its 128kbps network to 46 cities this year.

PORT@ABLE GUIDE BY PORTABLE INTERNET, $50
For the annual subscription price you get maps to 27 major U.S. cities (and Toronto and Vancouver). It offers reviews of restaurants, hotels, and locates ATMs, parking, and emergency services.

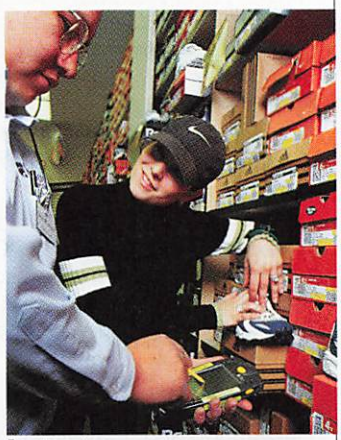
CYSTAT BY D.E. WILSON CONSULTING $50
A project management automation for where you need it most—on the road. It is integrated with email and calendar and reports can, of course, be beamed to others.

ZIOGOLF 2 BY ZIO INTERACTIVE, $30
With its color screen, the Pocket PC can easily double as a toy. This golf game with 3D graphics is but one example. Find more software at Microsoft's Website or at www.handango.com.

palm means business

The next battlefield is selling handhelds to the enterprise. Microsoft is pushing its handheld "corporate solutions" hard. Palm, though, got into the workplace early. A few examples:

Famous Footwear: Smarter sales



Easy inventory

Clerks no longer have to "run in the back and check" to search for a pair of size 11 silver Nike sneakers. Armed with wireless handheld devices running on the Palm operating system, they can simply scan a bar code and know the price, availability in sister stores, and whether a sale is coming up. The devices have helped reduce pricing errors in a business punctuated by promotions, which means constantly changing prices. "When you've got millions of pairs of shoes and 10,000 people trying to take care of pricing, it's hard to get the consistency," says Earl Fischer, the company's vice president of information services. "We had double-digit reduction in errors." *—Kim Cross*

Cadillac and Banana Republic: Stat central

BeamCast, the technology from a Green Brook, N.J., company called IS/Complete lets Palm users grab data about the products and services on display by pointing their handhelds at another Palm mounted conspicuously. At the recent auto show in Chicago, Cadillac rented BeamCast to beam data about some half-dozen new models.

Clothing retailer Banana Republic set up BeamCasts on the sides of 100 public phones in New York last December. Palm users could aim their devices at the BeamCast to get information on the location and hours of Banana Republic stores or to get coupons.

ServiceMaster: Spick-and-span reporting

Cleaning up with Palms

ServiceMaster uses Palms at 20 locations to track the cleanliness of Greyhound Lines buses. The company ditched its paper reporting process by putting nearly 50 Palm IIIxe devices in the hands of its inspectors. Now, ServiceMaster can report daily instead of weekly, providing feedback on the status of each bus it cleans. Inspectors enter data into their Palms and send it via a modem to ServiceMaster's server. Steve Moore, associate director for ServiceMaster's Greyhound account, says the basic idea was to get feedback faster "so we could correct things before they got too far out of line."

U.S. Navy: Making the grade

A couple of Navy graduates used the Palm Vx to develop an application that tracks the performance of Navy pilots who are landing jets on aircraft carriers. So-called landing-signal officers, standing several miles away, use their Palms to grade pilots on steadiness, accuracy, and speed during both day and night landings. The officers "hot synch" data to a PC and print qualifications data for pilots, eliminating time-consuming paper-based data collection.

—KG

Palm, I'd be on a personal *jihad* to say the company isn't like Apple," says Joel Kocher, a former Power Computing CEO who now runs Micron Electronics. "Palm is in the catbird seat [with licensing] as long as they mean it."

Yankowski says he means it. "The logic is simple," he argues. "This is a hot space, and if someone is going to play, they will play with us or Microsoft. I'd rather it be us."

The success of Palm's licensees, Yankowski insists, is a "rising tide that lifts all boats." And so far, each of the various manufacturers has tended to emphasize a different set of features, presumably pulling in a different set of customers. But if Handspring's next target should happen to be the same people who buy the stylish Palm V, Palm could lose market share and have to settle for a licensing fee instead of the $80 to $90 that it realizes on each of its own sales. "It's going to be a battle between Palm and Handspring," Dulaney predicts.

There is also no guarantee people will buy the things that Palm's licensees make. The wireless market, in particular, could be a zone of peril. Kyocera, which bought Qualcomm's handset division in December 1999, is updating the company's Smartphone, hoping to have better luck than Qualcomm did with its $800 pdQ, also based on the Palm OS. Such devices will face stiff competition from the likes of Research in Motion (RIM), which makes the popular BlackBerry. Mike Lazaridis, RIM's co-CEO, portrays Palm's strategy as the "old way," which is PC-like and OS-centric. The new way, he says, is building a messaging and email device that works like a phone. The BlackBerry is always on, alerting the user to every arriving message. For all of Palm's success, Lazaridis notes, the 11 million Palms sold pale beside the 415 million mobile phones sold worldwide last year. "Nokia sells more [devices] in a week than Palm sells all year," Lazaridis says.

Far from ignoring the threat, Palm has licensed its OS to a bevy of mobile phone makers, including Nokia. Handspring, for its part, has introduced the pricey VisorPhone ($299), which turns the Visor into a phone. Yet some argue that it's counterintuitive to put a phone on a PDA with an operating system built for managing data.

As Palm grows it will face the challenge of all successful ventures: getting big and staying nimble. Palm this year will introduce the first devices developed by the new crew. A revamped Palm VII, due out in the fall, will incorporate email notification and, per Yankowski's order, it will be lighter and thinner—much like the fashion-focused Palm V. The tentatively named Palm m505, shipping in March, and the new Palm VII will be among the first products outfitted with Palm's answer to the Springboard, a "secure digital" slot for adding memory and multimedia cards.

"This is not the Palm people think of," Yankowski says. But is it the Palm that will command the market during the next five to 10 years? COO Kessler says he sleeps with one eye open—on Redmond. Mace worries about the unknown inventor in a garage somewhere. "We came up from below and surprised the PC people," he says. "We need to be careful that nobody does that to us."

PHOTO: JONAH LIGHT

PHOTO: CHARLES FORD

KIM GIRARD (KGIRARD@BUSINESS2.COM) IS A SENIOR WRITER FOR *BUSINESS 2.0.*

Palmperipherals

How do you personalize a multifunction handheld computing device designed for the masses? Palm got bushwhacked by Handspring on this front; the Springboard modules give the Handspring more versatility. But Palm has a number of good add-ons and more will be coming when Palm's 4.0 operating system which will allow devices to connect to PDAs using the Bluetooth wireless technology. It will also support 16-bit color screens and better security when beaming data. For now, here's the best of what's on the market:

1. LANDWARE GOVOX DIGITAL RECORDER $65
Designed to replace the Palm's flip-up cover, the goVox holds eight minutes of memos without overloading the PDA's memory or draining its battery. Versions available for Palm III and Palm V.

2. RANDMCNALLY.COM STREETFINDER GPS FOR PALM V $150
The StreetFinder uses a global positioning system to find locations and suggest driving directions in both text and map form. Versions are compatible with all Palm models except the m100.

3. REVOLVE DESIGN ROADWRITER $205
This mounting device for using a Palm III or Palm VII in a car comes with a keyboard and lets the PDA slip easily in and out of its docking cradle.

4. NOVATEL MINSTREL V MODEM $369
The wireless modem's data speed tops out at 19.2Kbps. A retractable antenna and thin design make for a sleek package for the Palm V.

5. SIPIX POCKET PRINTER A6 $149
This 6-inch-by-4-inch printer spits out 4-inch wide documents without an ink cartridge. The battery-operated device outputs by direct thermal printer at 400dpi. You won't even need to connect it to a Palm; it receives data from the handheld via infrared beam.

6. FELLOWES MANUFACTURING PDA POCKET KEYBOARD $40
As an alternative to schlepping around a full-sized folding keyboard, this 3.5-inch-long battery-powered keyboard—due out in early summer—connects to the base of Palms III, V, VII, and m100 as well as the original Pilot series.

Palmsoftware

Palm encouraged software developers to run wild and they did. Owners of Palm and Handspring devices can download software, some of it free, that calculates how much tile you need to remodel your bathroom, predicts 30-day post myocardial infarction mortality, and enters your on-the-road charges instantly into Quicken. Check out palmgear.com and handango.com for more. Here's what we liked:

ANTI-VIRUS SOFTWARE
Symantec and McAfee.com have recently released virus protection software for Palms. Symantec's AntiVirus 2001 is $40 and offers free updates for one year. McAfee.com's MARS (McAfee.com Anti-Virus Resident Scanner) will be released as part of its Wireless Security Center software for $30. The programs scan data transferred from desktops or can be beamed via infrared.

AVANTGO
Provides business and other information to handhelds, including news, movie listings, directions, stock quotes, and weather. Its software allows information sharing between companies and mobile employees, customers, and suppliers. Internet business content can be personalized from AvantGo's more than 600 channels.

FIREPAD
FireViewer is a minibrowser, document viewer, and media player for handhelds, while FireProducer is a streaming video server for the Palm OS. Depending on a user's Internet connection speed, Firepad's software plays color video as fast as 25 frames per second.

VINDIGO
Essentially a city guide—directions, restaurant finder, and reviews of bars, movies, and stores. There are guides for 19 major U.S. cities and London. Sync the handheld with a PC and load a new city. Vindigo has many high-profile partners—Zagat, Time Out, *The Washington Post, and The New York Times.*

WAP MICROBROWSER
Digital Airways makes a Java-based wireless application protocol (WAP) microbrowser specifically for Palm. Called Wapaka, it works with most protocols, such as infrared, global system for mobile communication data, general packet radio service (GPRS), and Bluetooth. It also allows users to open several WAP windows at once, just like a desktop browser.

WESYNC.COM
Designed as software for companies with satellite offices, workers who must operate remotely, or business travelers. Schedules can be tracked, contact lists amended, and those lists shared. Changes to meetings and other appointments instantly update on each member's list when synced up. *—Eric Reyes*

Triangulating

Jeff Hawkins steers Handspring where Palm and Microsoft loom.

The future of personal computing is mobile computing. A T1 line in the pocket. For everyone.

Hawkins Talks

You have started a company. It's time to decide on a product.

That was Jeff Hawkins' situation a little more than two years ago. With Donna Dubinsky, his main accomplice in the development of the PalmPilot, he had left 3Com to set up shop anew. Kleiner Perkins and Benchmark Capital had agreed to put $10 million or so at their disposal, with very few questions asked. So Hawkins had his freedom—and a chance to take handheld computing in a new direction. But where?

He began by writing down all the things people had been badgering him to do. Add a camera to the Palm. An MP3 player. A wireless modem. It was a long list, and no single idea jumped out. Then came an epiphany: He would create a product designed for customization by others—an organizer with a slot for an expansion module. It would let people turn the basic product into something more, with a minimum of fuss. In the PC world, Hawkins felt, expansion had always been an ordeal. "You ought to just plug it in and it'll work," he says.

Hawkins is tall, lanky, and fair-skinned, with blondish hair and a manifest enthusiasm for his role as a computing pioneer. He grew up on Long Island, the son of a Gyro Gearloose-style inventor who once spent the family savings building the world's largest air-cushion boat. (It later served as a traveling stage for a waterborne symphony orchestra.) Hawkins himself seemed headed for an academic career, in theoretical neurobiology, until a code-writing job at GRiD Systems in the late 1980s propelled him into the wilds of handwriting recognition and pen-based computing. Informed by the lessons of his work on the GRiDPad and another trailblazing product, the disastrous Casio Zoomer—he created the PalmPilot. With the backing of U.S. Robotics (later merged with 3Com), Hawkins and Dubinsky loosed their baby on an unsuspecting world at the beginning of 1996, just when the Apple Newton—the greatest handheld debacle of them all—had lowered

INTERVIEW BY
JAMES LARDNER AND KIM GIRARD
PORTRAIT BY KLAUS SCHOENWIESE

expectations for such devices to nil.

Today, Hawkins' company, Handspring, has a license to use the Palm operating system he helped construct. And with more than 11 million Palms and more than 1 million Handspring Visors sold to date, he is the unofficial leader of the movement to make computers more straightforward and utilitarian. "I find my PC extremely frustrating," says Hawkins, his restless energy briefly confined to a chair in his office at the company headquarters in Mountain View, Calif. "Every time it crashes, I imagine a hundred million people around the world wasting five minutes re-booting their machines."

At Handspring, he finds himself in a bizarre triangular relationship with the two other great powers of the handheld world. First there is Microsoft, a business enemy for more than a decade. Then there is Palm, now a company unto itself, but a mere division of 3Com when Hawkins left in June 1998—largely, he says, because 3Com CEO Eric Benhamou refused to OK a spinoff.

Find this story online
Internet Keyword:
B2.0 Jeff Hawkins
BUSINESS2.COM

Benhamou says it was a matter of timing. He also describes Hawkins as "the classic example of a young entrepreneur who is dying to be independent and dying to do everything by himself without being accountable to anyone but himself."

Today, Handspring and Palm lead a de facto alliance of companies carrying the Palm OS banner into battle against the dreaded Pocket PCs. To make matters even more complex, Windows-compatibility issues are a constant concern for Hawkins at Handspring, as they were at Palm. Thus he is working with both Palm and Microsoft even as he competes with them.

PC synchronization was, in fact, at the heart of Palm's original success. It's also "a nightmare" in terms of technical-support costs and customer frustration, Hawkins said during a recent interview. "The PC," he added, "represents the biggest obstacle to the future success of handheld computing." Eventually, Hawkins sees handhelds moving away from their physical dependence on the PC toward some form of wireless backup through a central server. For the time being, he remains (with full awareness of the irony) "the guy that made the most popular PC accessory."

Q: Some people see Palm as the Microsoft of the handheld world, with Handspring, Sony, Sprint, Kyocera, and its other licensees filling the roles of Hewlett-Packard, Gateway, Compaq, and so on.

A: It looks like the PC world, but it's different. Our business is actually closer to cell phones. One of the complaints we always got from 3Com and U.S. Robotics was, "You guys are going to be the Apple of the handheld world—Microsoft is going to license everybody and you're going to lose out." We kept saying, "We don't think that's how it's going to work, and so far that has proven to be true. Microsoft has gone through a lot of partners in their broad licensing strategy, and it hasn't helped. The only one who has sold anything is Compaq.

I guess what I'm saying is the OS plays a diminished role in this business. In the PC world, the OS is everything. You don't need to see what box I have under my desk. They're all the same. In the handheld computing space, it's not like that. Our products are going to diverge from Palms over time in form factor and functionality.

Have you made a decision to use another OS?

I have to give you a very standard answer on this because it's a very sensitive question. The standard answer is that we're very happy with Palm—and I mean that. All the products we want to build today, we can build with Palm OS. But our relationship is such that we could either license or build another operating system if we wanted to. Long-term, if Handspring grows as large as I think it will—which is very large, because we want to be the leader in mobile computing devices, and I think the future of personal computing is mobile computing—then it's almost certain that we will have products that won't run Palm OS. But that's not a product announcement.

You're associated with handwriting recognition. Nowadays, a lot of people see voice recognition as the breakthrough that's going to make handheld devices more broadly useful. What's your take?

I have to be careful here because people get mad at me. I'm not a big fan of voice recognition. There are phones today where you can program your top 20 speed dials—"Call Kim. Call Peter. Call Dan." It's limited, but it works. But as a primary control device, it doesn't work well at all. The voice-recognition guys come to me and say, "We got a low-cost system that's blah-blah-blah." I say, "Look, I'm willing to add a $5 cost to my product if you can recognize the letters A to Z, speaker independent. Just 26 letters. Can you do that?" Because then, at least, I could spell out a name while I'm driving my car. But they can't. It turns out to be very hard problem.

You have just introduced what some people are calling a very expensive cell phone.

It's $300 when you buy it with service, and the Visor itself costs $149 to $449, depending on the model. The phone business for us represents a long-term investment. We are going to do a lot of phone products—this is our first, and it's not meant to compete with phones head to head. If all you want to make is voice calls, you shouldn't buy this product. But if you have hundreds of names in your address book and you make a lot of cell-phone calls and you integrate the two, it's really a great productivity tool. Plus I can do conference-calling and messaging and use it for wireless email and wireless Web browsing and other things.

What do you think of Stinger, Microsoft's new smartphone OS?

I haven't seen it. People come to me and say, "Hey it's great!" But they said that about WinCE and Pocket PC. There's a funny thing about competition. You have to assume they're going to be smart—you have to worry about each new thing that comes along. The reality is, nine times out of 10, it's not as bad as it seems.

Based on your experience with what turns consumers on and off, we would like to check your reactions to a few new technologies

Confidence. Trust. Security.

(You know, the feelings your customers should get when they transact business on your website.)

Trust online. Truth is, many customers still really don't have it. Problem is, it's one of the biggest impediments to realizing your e-business plans. At Ernst & Young, our CyberProcess Certification℠ solutions, including WebTrust℠, are among the most recognized—and respected—in business. When we verify your processes for securing your customers' privacy and confidentiality, they will feel that doing business with you online is the same as sitting with you across the table. It doesn't get any more reassuring than that.

newrules neweconomy™

CYBERPROCESS CERTIFICATION

ERNST & YOUNG LLP

ey.com/cpc

ERNST & YOUNG

FROM THOUGHT TO FINISH.™

©2001 ERNST & YOUNG LLP

Modules for springing to action

It may not have the elegance of a Palm handheld computer, but the Handspring Visor does have that wonderful slot in the back—the Springboard—that allows docked peripherals to work, be they for business, pleasure, or whatever lies between. As a single gadget, Visor has helped push the PDA from a glorified calculator and memo pad to a device that can handle just about any mobile job.

powerOne Finance by Infinity Softworks $50
This cartridge handles profit margin, depreciation, interest, currency conversion, measurements, and a dozen other mathematical duties.

GameFace by Handspring $40
For gamers, this plastic face plate converts the small Visor keys into easy-to-play "firing" buttons and a joystick. It's an incredibly simple idea that makes a Visor more like a Gameboy.

Minstrel S Wireless Modem by OmniSky $299
When linked to OmniSky's wireless service, the compact modem allows browsing at 19.2Kbps and serves up the Net from OmniSky's name-brand content partners. Users save information from the Web directly into a memo pad or address book with one tap of the stylus.

VisorPhone by Handspring $299
This module snaps onto the back of the Visor and converts the PDA into a mobile phone. The real beauty: It's also a 14.4Kbps wireless modem—and an all-in-one tool for traveling professionals. Caution: Pressing the unit to your face leaves grease on the display.

MiniJam MP3 Player by InnoGear $259
This player holds 64MB of music. But it also stores and reads e-books and displays images. Two multimedia card expansion slots beef up the player to 128MB—equal to two CDs of music or hundreds of pictures.

GoType! Keyboard by LandWare $70
If tapping out the alphabet with a stylus or mastering handwriting recognition are just too cumbersome, this keyboard is perfect. The keyboard has application-launch buttons, an external USB port for hot-syncing to a desktop, and a bundled word processing program. It doesn't fold up into a pocket-sized package like other travel keyboards, but the solid design duplicates the experience of a laptop.

Total Recall Digital Voice Recorder by Targus $100
This stand-alone voice recorder holds 4MB of sound. When slapped into the Springboard, users can operate it through the Visor display, then edit, sort, and organize recorded notes. It also uploads recordings into a PC for emailing.

Eyemodule Digital Camera by Ideo $150
Unlike a camera, the Eyemodule beams pictures between other camera-enabled Visors. Pictures are stored on the PDA, from basic black-and-white to 320 x 240 pixel color. Images can be transferred to a PC.

Geode GPS Module by GeoDiscovery $289
This module turns the Handspring Visor into an electronic city guide. Besides pinpointing location, the Geode gives descriptions of nearby locations based on various regional guides—be it the nearest bank, hiking trail, or restaurant.

Presenter-to-Go by Margi Systems $300
This module transforms the Visor into a digital projector to give PowerPoint presentations. Users download PowerPoint documents from a PC into the Visor, plug the handheld into a projector or other VGA display, and give their presentation from across the room using the remote control included with the module.

and products. One is the e-book.
I know those guys pretty well. I knew both those companies [NuvoMedia and SoftBook] before they launched and got bought by GemStar. I don't think those products will be very successful. I never did. A lot of people like to read documents on a PalmPilot. But they won't pay hundreds of dollars for a dedicated book device.

How about i-Mode, the Japanese mobile doodad?
i-Mode has been very successful in Japan, and some of the reasons translate here, but a lot of them don't. In Japan, for example, for most of the people buying i-Mode phones, it's their first online experience. They don't have PCs at home, they don't have an ISP, and they've never used email. So it's a very enlightening experience. Bring i-Mode to North America, and if it works well, it'll do well, though I don't think it will be as phenomenally successful as in Japan. But look, the most important thing about i-Mode phones is that they give you a persistent connection. We don't have that yet. When we do, maybe we'll want something bigger—something more like this [points to a VisorPhone]. I think the promise of a persistent Internet connection on a mobile device is big. If I introduced a wireless product with a persistent connection and a better user interface, it would be wildly successful.

What about BlackBerry?
BlackBerry is a very good product. We respect those guys a lot, though it has some very severe limitations, too. No developers. It's really a niche product. The number of people may be high in this circle around here and on Wall Street. But we're a far bigger business. They have 150,000 users. We've sold a million Visors. In general, I think messaging is one of the really big applications for people. There's PIM—personal information management. That's what we did at Palm and Handspring. There's voice communication—the cell phone. And there's messaging. There's also a fourth [application], browsing and transactions, but that hasn't taken off yet from a wireless point of view.

How about Internet appliances?
I assume you mean Audrey and the NetPliance and I-Opener. It's a shame because those products could be a lot better than a desktop PC, but market dynamics make it very hard for them to be successful. Anyone who would buy it is just going to start sliding down the path to where he might as well get a notebook or a PC or iMac.

Email is the mainstay of that business, isn't it?
Messaging, I like to say. But messaging needs to be mobile.

"Desktop machines are all the same....Our products are going to diverge from Palms over time in form, factor, and functionality."

Speaking of mobile, [Palm CEO] Carl Yankowski let us know that he's not fond of the Palm VII. He's redesigning it.

Here's the story. We were at U.S. Robotics at the time, and the CEO, Casey Cowell, kept saying, "I want you to do a wireless Palm." I said, "Casey, I don't think it's the right time—we'll be getting ahead of the curve and I don't think I have a great solution I can deliver." And he said, "If you don't do it, I'll have someone else do it." So I definitely felt like it was a product we were forced into doing—we did the best we could at that time. The products I'm thinking about now, daily, are not going to show up until a year from now, maybe two years. So the discrepancy between [a Palm VII] and what I'm currently imagining is six years. But you've got to remember that from a consumer's point of view, it may be the hottest thing they've ever gotten. You have to be careful as a designer. You can't project your current disappointment onto something you did a long time ago.

Some Visor owners may have expected to see more modules on the market by now.

We knew people would say that. Those people have never built hardware—it just takes time. If you look today, a year after we introduced our first product, there are quite a few modules and we're about to introduce some exciting ones.

What part of the population are you making products for?

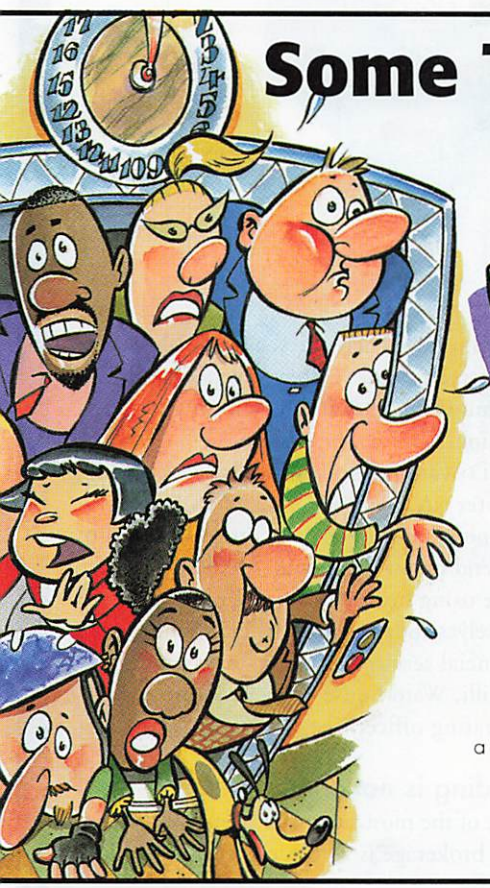
I hope I don't come across as an idealistic fool, but these products can make people's lives better. We think of personal communications and personal productivity as universal benefits that go across all geographies and demographics. I can't come out and say, "I'm building handhelds for Bangladeshi farmers." We have to start with businesspeople, and then their spouses, and then we'll move into the education market. In the end, you can imagine wireless service that is essentially free (which is going to happen), and a $100 device that is very powerful. Every student can own one, every kid in school, every parent. Everybody.

I've got a long-term hat on here. We're going to be around for 20 years. Ten years from now it's going to be awesome. It's going to be like having a T1 line in your pocket for no cost. What do you do with that? What do you do with a persistent server in your pocket?

What *do* you do with that? Some people would like to send you ads for the mall you're driving past.

People are going to come up with these crazy ideas, but you know what? It is powerful to be able to get things quickly. A persistent connection is powerful. I can get my news feed, I can get things I want when I want. But I don't subscribe to the idea that when I'm jogging past the coffee shop, I get a message that says to go in. I'll shoot the thing if it does that.

JAMES LARDNER (JLARDNER@BUSINESS2.COM) IS A SENIOR FEATURES EDITOR AND KIM GIRARD (KGIRARD@BUSINESS2.COM) IS A SENIOR WRITER FOR *BUSINESS 2.0*.



Some Things Need Limits. You Don't.

Web hosting with all the hits and transfers you'll ever need!

All for $19.85* a month!

- **Unlimited** hits and transfers
- **150 MB** of storage
- **25 POP** email accounts with **unlimited** aliases
- Registration in **over 600** search engines
- **Free** secure server access
- **Redundant OC3** connections to the Internet
- Use of TOPCHOICE **control panel**
- **Full access logs** with hourly updates
- **High performance** servers
- **NO HIDDEN CHARGES**
- Powerful **e-commerce** options
- **Generous** Reseller program

30-day money back guarantee!

Top Choice SYSTEMS INC.

a RADIANT Communications Inc. company

TOPCHOICE has been exceeding customers' expectations since 1994. Contact us today.

info@topchoice.com
1-888-219-2111

www.topchoice.com/2
We do not host adult sites.
*Pre-paid for one year

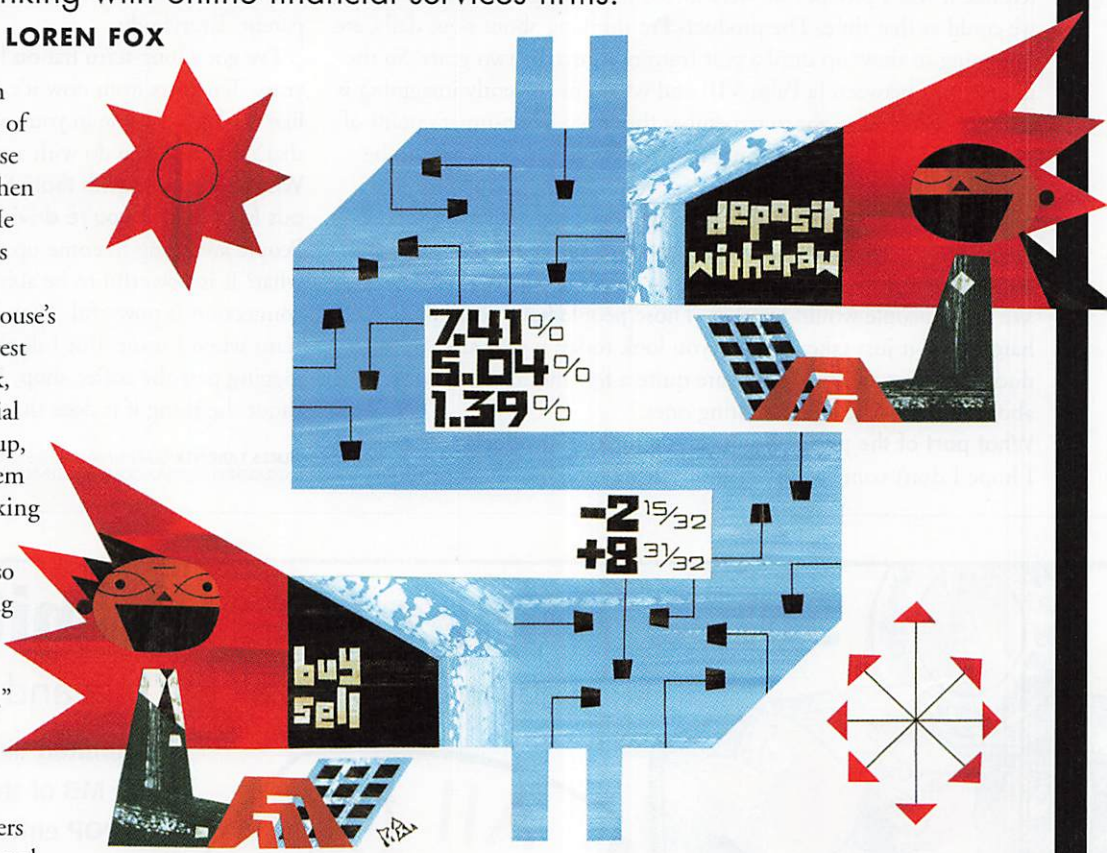
RADIANT COMMUNICATIONS

Dossier: SmartForce learns to earn. —p90

Luskin: A taxing situation. —p92

Banking on Brokers

More investors do their banking with online financial services firms. And it's not just a fad. **BY LOREN FOX**



Software company executive Dan DeVlieger had been a customer of online brokerage TD Waterhouse Investor Services for about two years when the firm offered him online banking. He tried it, and now his broker provides his main checking account.

The initial attraction was TD Waterhouse's higher rates: It offers 1.25 percent interest on checking while DeVlieger's old bank, PNC Financial Services Group, paid zero interest. "The banks don't seem to have any interest in servicing checking accounts," he says.

www.waterhousebank.com

But DeVlieger, a busy New Yorker, also likes the seamless linking of his checking account with his brokerage account. "I like starting to get all my financial assets in one location and on one screen," he says. "You begin to have more of a relationship if you have all of your accounts linked electronically."

DeVlieger isn't alone. When consumers look for a new financial product, they tend to seek it first from their primary financial provider—and increasingly that seems to be their ebroker. They're drawn by convenience and higher rates on services including checking, money-market accounts, credit cards, and even bill payment. Jupiter Research estimates that 25 million U.S. households will be banking online in 2002, up from more than 18 million this year.

"There's a large amount of convergence in the online financial space," says Jupiter senior analyst Robert Sterling. "People want flexibility when they go online. They want convenience and time-saving."

Banking online
Different banks spotlight different products. At E*Trade Bank and NetBank, online checking is the most popular account. At TD Waterhouse Bank, money market accounts and credit cards are the most popular offerings.

The online brokers want to evolve from pure brokerage firms to more diverse financial-services providers. That way they can capture a greater share of customers' wallets. The impetus for this move grew last year and has continued into this year. Sagging technology stocks damped the spirits of online investors, which meant fewer commission-generating trades. For example, TD Waterhouse handled an average of 110,000 online trades per day last fall, down 42 percent from last spring.

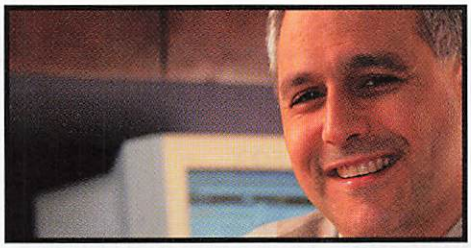
"When online brokers offer banking services, they get at least two things," says Richard Repetto, a senior vice president with Putnam Lovell Securities, a financial-services investment bank. "They diversify their revenue structure, and they form a stronger relationship with the customer."

TD Waterhouse, which has had a banking charter since 1994, launched its linked online bank-brokerage in late 1999, and by the end of last year about 100,000 customers were using both services. "We really do see ourselves today as an integrated online financial services provider," says Frank J. Petrilli, Waterhouse's president and chief operating officer.

Trading is not enough

One of the most successful blends of banking and brokerage is E*Trade Securities, which

ILLUSTRATION: PHILIP ANDERSON



"Banking and brokerage at the same firm? In my mind, the two businesses are a natural hedge against one another."

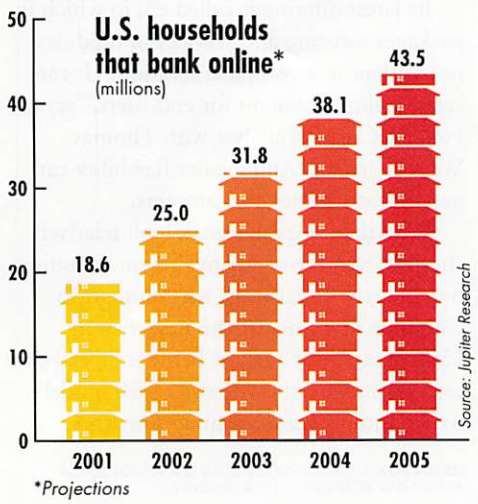
—**Mitchell Caplan,** chief global banking and asset-gathering officer, E*Trade

on February 8 reported $6 billion in retail online deposits, up from $2.7 billion a year earlier. In January 2000, it acquired online bank Telebanc Financial, later turning it into E*Trade Bank. Merging with E*Trade made more sense than partnering, says Mitchell Caplan, the former Telebanc CEO who is now chief global banking and asset-gathering officer at E*Trade. "In my mind, the two businesses are a natural hedge against one another." In other words, when the stock market drops, money flows into bank accounts.

That dynamic has helped stabilize E*Trade's business, as the bank contributed roughly one-third of the company's gross revenues in the quarter ended December 31. E*Trade reported earnings from continuing operations of 2 cents per share in that quarter; meanwhile, rival Ameritrade Holding, which has no banking operation, lost 13 cents per share in the same quarter.

www.etradebank.com

The brokerage business helps the banking business grow by cross-selling services. More than 40 percent of E*Trade Bank's new accounts customers come from E*Trade's brokerage side. Conversely, about one-third of banking customers also open brokerage accounts. "The key winner here is full integration," Caplan says.



Unlike E*Trade, Ameritrade opted last August to partner with pure online bank NetBank. Without merging, the two firms offer their services to each other's customers. Now, more than 12 percent of NetBank's new customers come from its Ameritrade relationship, according to NetBank CEO D.R. Grimes.

Ameritrade isn't interested in becoming a bank. "We have a laser-like focus," says CFO Randy MacDonald. With the NetBank alliance, the brokerage "found the best-of-breed provider for cross-marketing," he says. "And I haven't added a dime to my infrastructure cost."

However, some brokers say that concentrating on cheap stock trades is no longer enough. About 60 percent of TD Water-house's revenues come from trading commissions, and the firm wants to lower that figure to less than 50 percent in three years. "The more customers use our services, the greater the loyalty and retention rate," says Petrilli.

Waterhouse customer DeVlieger is a case in point. Never a very active trader, he has lost interest in the daily gyrations of the stock market, but still visits the Waterhouse site regularly to schedule payments and transfer money between accounts. "I go there for the banking side," he says. "In a way, it kept me going back to them."

Brokers versus banks

The vision of the one-stop financial shop has been around for years. Firms such as American Express and Citigroup have tried melding banking, brokerage services, and loans without succeeding. But the Internet's personalization and ease of use, industry experts say, make the financial supermarket more viable. "On the Net, you can offer an integrated experience to your customer," says Caplan.

But banks are not sitting still. Banks such as Wells Fargo and Citigroup's Citibank all have robust online banking sites and have been beefing up their online investing capabilities. "Our customers look to us for all financial needs, so I can understand why others would look to have a greater set of services," says Jennifer LaSalle, a senior vice president with Well Fargo's Investment Internet Services unit.

Banks see where the competition is coming from, but they say they are not worried. "Will E*Trade knock off Citibank? Not in our lifetime. But it can be a successful business and boost its account size," says Sterling. The smart traditional banks are reacting by improving their Websites. Market research firm Gomez, in its quality rankings of online banks, gives its best overall marks to pure banks Citibank Online, Security First Network Bank, and NetBank. E*Trade Bank ranks just 24th on Gomez, falling short in some sophisticated services and relying on partnership links; and TD Waterhouse Bank ranks 30th, lacking some online customer services and email alerts.

www.gomez.com

E-brokers are still learning the ways of banking. But given the speed at which E*Trade and others have climbed the learning curve, it looks like this contest will have many customers switching banks.■

LOREN FOX (LFOX@BUSINESS2.COM) IS A SENIOR EDITOR IN THE NEW YORK OFFICE OF *BUSINESS 2.0.*

BUSINESS 2.0 DOSSIER: SMARTFORCE

A Quick Study in E-Learning

SmartForce's new Web-based model is not yet the teacher's pet. **BY LOREN FOX**

Many companies have promised to shift their entire business to the Internet, but SmartForce is one of the few that has successfully done so. The company, based in Redwood City, Calif., is the largest online-learning provider. But investors have been mediocre pupils when it comes to learning the benefits of SmartForce's new business model.

www.smartforce.com

Originally known as CBT Systems and based in Ireland, the company sold packaged educational software, with an emphasis on corporate information-technology (IT) training. It changed its name in October 1999, when it launched as a Web-based subscription business. Now customers can get SmartForce courses over the Web, or simply use SmartForce infrastructure for their own course material, to train employees or even customers.

It was not an easy move from packaged software to Web-based courses and tools. The company, which had been profitable, reported losses in the first three quarters of 2000. "There was some short-term pain, but that's outweighed by the long-term prospects," says Steve Lidberg, an analyst with Pacific Crest Securities.

A good start. The question is how visible those long-term prospects are.

SmartForce began to illustrate the power of its online model by acing its fourth quarter of 2000. The company reached profitability one quarter ahead of expectations when it reported earnings of 1 cent per share, excluding amortization of intangible assets. The company raised its projections for 2001 earnings to 30 cents a share from estimates of 19 cents. And the backlog of business at year-end was $357 million, also above expectations, as the company signed up new customers such as Visa International, Safeway, and Tellabs, a communications-equipment-maker.

Source: First Call

The return to profitability was a key milestone. But the stock hasn't exactly taken off. SmartForce held up well since mid-January—holding between $35 and $45—in a market that has been brutal to many Internet stocks. In some ways, it remains a cheap stock for a company growing so quickly. Lidberg notes that as of mid-February, the stock was trading at roughly 65 times his estimate for 2002 earnings. But he expects SmartForce's earnings to increase by as much as 90 percent a year for the next few years, which means the stock is trading at a 20 percent discount when compared with its growth rate. Using the P/E-to-growth measure, a stock is considered undervalued when it trades for less than its growth rate. (The S&P 500 currently trades at 1.3 times its growth rate.)

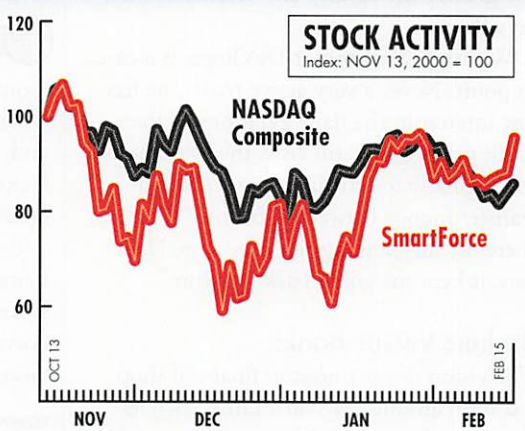
More offerings. SmartForce is also well-positioned to expand its business into new areas. The company has already gone beyond IT training; it now helps Dell Computer, E*Trade Group, and others teach their customers how to get the most out of their products. Lidberg notes the company is also interested in building its library of business skills, such as communications.

Its latest offering is called e3, in which it packages software and services in modules rather than in a complete solution. "It can create tailored content for end-users," says Fred McCrea, an analyst with Thomas Weisel Partners. And greater flexibility can nab new categories of customers.

Why then does the stock look relatively cheap? Given the company's recent transition, one quarter of earnings isn't enough to convince investors of the new vision, Lidberg says. But analysts bet that SmartForce can continue to show that its Web model works and generates earnings growth.■

SmartForce (SMFT)

- **Recent stock price:** $44 (2/15/01)
- **Market capitalization:** $2.3 billion (2/15/01)
- **52-week high:** $60.88 (3/02/00)
- **52-week low:** $25.75 (1/10/01)
- **Projected 2001 revenues:** $265 million
- **Projected 2002 revenues:** $375 million
- **Avg. contract value:** $160,000 (Q4 2000)
- **Contract backlog:** $357 million (12/31/00)
- **Projected 2001 earnings:** 30 cents per share
- **Projected 2002 earnings:** 72 cents per share



Sources: First Call; BigCharts; Intelliscope; SmartForce

LOREN FOX (LFOX@BUSINESS2.COM) IS A SENIOR EDITOR IN THE NEW YORK OFFICE OF *BUSINESS 2.0*.

THE INTERNET

in a convenient travel size

The Internet in your hand. Wireless Internet. This means data anywhere, anytime.* Nextcell's PocketSpider® allows you access to the Internet with your PocketPC so you'll stay connected to the things that mean the most to you. Monitor the stock market, hear the latest news, send email, complete proposals, fax reports, shop for gifts, view traffic or get driving directions. Nextcell's PocketSpider — the Internet in a convenient travel size.

NEXTCELL, INC. IS PROUD TO BE IN PARTNERSHIP WITH

GoAmerica Wireless Internet Services · Microsoft Windows Powered · CASIO the unexpected extra

*Depending on coverage provided by your cellular operator. Wireless Internet Service available through GoAmerica.

FOR MORE INFORMATION, CALL
1.866.654.4400
www.nextcell.com

E 125

EG 800

IT 700

nextcell

Nextcell and PocketSpider are registered trademarks of Nextcell, Inc.
©2000 Nextcell, Inc. All rights reserved. Nextcell, Inc. 661 E. 18th Street Plano, Texas 75074

INVESTING

The tax on capital gains hurts the economy by hindering the mobility of investment dollars.

Stop Taxing Our Growth

DONALD L. LUSKIN

Most investors at this time of year are reviewing their finances in preparation for filing income tax forms. So, how did you do? I don't mean how did your investments perform—I mean how did you do in the capital-gains tax game?

Did you dump enough AT&T at the end of the year to compensate for that big, fat trading gain you got playing Network Appliance last March? Did you hold on to that Coca-Cola stock your grandmother gave you 15 years ago? Did your losses offset your winnings so you could score the golden goal for investors at tax time—a big, fat zero for capital gains?

Capital-gains tax
Uncle Sam takes as much as 20 percent of the profit from sales of assets such as investments.

Even if they did offset, don't get too excited. You still paid a price for capital gains last year, at least in one way: Because the capital-gains tax is a direct levy on the growth rate of the New Economy, we all pay a price in lost opportunities when that economy grows too slowly.

Distorted decisions

New ventures are the motors of the New Economy, and capital—especially what people call *risk capital*—is their energy. When the mobility and flow of capital are diminished by the capital-gains tax, the New Economy sputters. Consider the simplest and most profound effect of capital-gains taxes: They keep you from selling investments you would like to sell, simply because you don't want to pay the taxes on the gains.

As an investor, letting the capital-gains tax consideration distort your investment decisions can keep you from getting out at the top and keep you from switching to a faster horse. That same tax-distorted investment decision hurts the New Economy because it effectively keeps investment capital locked into old investments at the expense of the newer ones.

There are trillions of dollars in unrealized capital gains out there, much of them locked into less-than-optimal investments. Abolishing the capital-gains tax would unlock some of those trillions.

Capital would flow from the Old Economy to the New Economy, from the great to the small. Remember: It's not just the rich who pay all the capital-gains taxes; it's those who would like to get rich by founding new enterprises and could use access to the locked-up investment dollars.

In the past, cuts in capital-gains taxes have resulted in more money flowing into new enterprises. Venture capitalists invested a total of $9.9 billion in 1996, according to the National Venture Capital Association, but after capital-gains tax rates were reduced in 1997, that VC investment figure rose to $19.2 billion in 1998.

www.nvca.com

This was not a coincidence. Much of the money waiting to be unlocked is in private investments, small businesses, farms, and, especially, single-family homes. Sure, only some of the unlocked money from unrealized capital gains would go into brand-new ventures and private startups, while much of it would go into established companies' stocks and bonds.

But even the money that went into existing securities would go to investors who would then have funds to invest in newer enterprises. And money flowing there lowers the cost of capital for those companies when they sell additional stock or issue shares to acquire other companies.

More importantly, capital would flow from where it's artificially confined to where people want it to go. That's important because the economy needs to be liquid for investors to feel comfortable risking money on new ventures.

Create new jobs

The smallest entrepreneurs taking the biggest risks are hurt the most by capital-gains taxes. When investors know they will have to split their gains with the government, they tend to invest only in sure things, suppressing the market's appetite for risk.

Meanwhile, millions of ordinary wage earners would benefit from eliminating the capital-gains tax. According to the free-market Cato Institute, small businesses create 50 percent to 80 percent of new jobs in the United States. So, cut the capital-gains tax, foster more new businesses—and get more jobs.

And those jobs will probably be higher paying, too. Over the long haul, the best way to boost real wages is productivity growth, and that can happen only if investments flow into new, productivity-enhancing tools. So, cut the capital-gains tax, get more productivity—and higher wages.

Even in this deficit-obsessed era, the government can afford to nix capital gains taxes. Right now the Internal Revenue Service isn't making a penny on the trillions of dollars in capital gains that have yet to be taken. And the higher wages created by greater productivity will get taxed, paying for the roughly $125 billion lost in annual tax revenue from abolishing a capital-gains tax.

An old maxim says that if you want more of something, the government should subsidize it, and if you want less of something, the government should tax it. Capital is definitely something we want more of. We don't need to subsidize it. But let's stop taxing it.■

DONALD L. LUSKIN (DON@METAMARKETS.COM), CEO OF METAMARKETS.COM, IS A REGULAR CONTRIBUTOR TO *BUSINESS 2.0*.

Just because you're good at one thing doesn't mean you're good at everything.

Shaquille O'Neal was virtually a unanimous selection for Most Valuable Player in the NBA. But the skills that make him dominant in his line of work don't ensure success in other endeavors.

The same applies to you. Whether you're the CEO or COO, chances are your expertise does not include managing a complex Web operation. And if you're head of IT, you know you could use a little support.

This is where we come in. We're Digex, and managed Web hosting is what we do. In fact, Gartner Group just listed us as a leader in the industry.*

Our exclusive Web architecture features proven, engineered solutions for your core infrastructure. We've set the benchmark with standard 10-day installs. We also specialize in complex solutions to address your particular business needs.

Our procedures for security, change management, and disaster recovery have been validated through an Ernst & Young review which cleared the way for us to achieve SAS70 Type II recognition.**

Our interactive customer portal lets you monitor your operations at all times, and our partnership with WorldCom provides you with a high-speed global network.

To find out more, please visit us at digex.com/host or call 1-800-455-2968 ext. 940.

digex℠

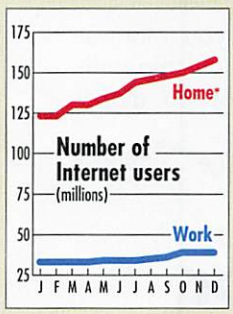
Where managed hosting began.
Where managed hosting is going.

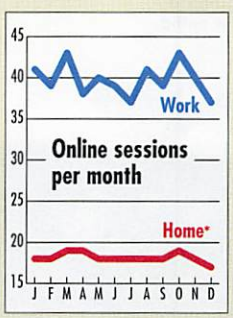
Shaquille O'Neal, NBA MVP

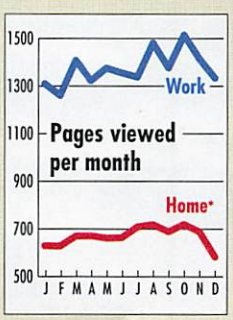
© 2001 Digex, Inc. All trademarks, trademarks, and service marks mentioned and/or used belong to their respective owners. *Gartner, *North American Web Hosting Market*, Magic Quadrant, January 2001. **Procedures reviewed by E&Y relate to control objectives specified in the SAS70 report.

IRS: More Likable Online?

U.S. NET USERS, 2000







*Includes telecommuters
Source: Nielsen//NetRatings

TESSA ROMITA: ANALYSIS

TAXPAYERS SAY THEY FIND SATISFACTION IN ELECTRONIC FILING

Electronic filing means less paper, less snail mail, faster refunds, less resentful taxpayers, and a tax preparation accuracy rate of 99 percent, according to the Internal Revenue Service. Not bad, considering 35 million out of 115 million individual tax returns were filed electronically last year.

The IRS has changed gears and is on track to making electronic filing a relatively painless experience. But tax payment is another matter. The IRS Customer Service Task Force (yes, it really does have one) is using a business-driven approach, viewing the filer not as an adversary, but as a customer. In a survey conducted by the task force,

www.irs.gov

www.customersurvey.gov/results.htm

findings indicate that "customers" want fair, respectful, and courteous treatment; minimum contact with the IRS; simplified forms and notices; easy-to-access help; and quick resolution of problems.

E-filing seems to be helping the IRS improve customer relations. The American Customer Satisfaction Index, a survey that asks customers to rank their expectations and overall satisfaction with a service on a scale of 0 to 100, found that all tax filers rated the IRS a dismal 48, down 3 points from the 51 recorded in 1999.

But the score for electronic filing reached 75, up 1 point from 1999—much better than the score of 68.6 that other government agencies rated and the 71.2 ranking of the private sector.■

TESSA ROMITA (TROMITA@BUSINESS2.COM) IS A SECTION EDITOR FOR *BUSINESS 2.0.*

More tax filers send returns electronically...

IRS FILINGS (THOUSANDS)

	1999	2000	2001**
INDIVIDUAL TAX RETURNS			
TOTAL	**111,507**	**115,068**	**21,856**
E-FILING RECEIPTS			
PHONE	5,647	5,142	2,181
COMPUTER	23,346	29,768	12,865
TAX PROFESSIONALS	20,940	24,857	11,246
SELF-PREPARED	2,406	4,911	1,619
TOTAL	**28,993**	**34,910**	**15,046**

*Cumulative through the weeks ending April 23, 1999, and April 21, 2000
**As of February 9, 2001
Source: Internal Revenue Service

...and go online for tax-related information.

TRAFFIC TO TAX-RELATED WEBSITES (THOUSANDS)*

	DEC. 17	DEC. 24	DEC. 31	JAN. 7	JAN. 14	JAN. 21	JAN. 28	FEB. 4
FedWorld.gov	39	32	70	125	150	127	189	282
USTreas.gov	51	37	50	79	84	92	111	144
IRS.gov	64	46	98	157	175	156	267	430
TurboTax sites**	21	24	24	58	70	134	180	342

*Average daily unique visitors, December 17 to February 18
**Represents an aggregation of commonly owned/branded domain sites
Source: Media Metrix

Turbo-Charged

SALES OF TAX SOFTWARE (THOUSANDS)

INTUIT TITLES	2000*	1999
TurboTax Deluxe	$44,061	$48,114
TurboTax	24,787	32,226
TurboTax Multi-State	16,355	0.187
TurboTax Home & Business	12,624	11,251
TurboTax for Business	4,569	3,912
TurboTax Deluxe for Mac	3,185	2,756
TurboTax Multi-State for Mac	328	40
TurboTax State California for Mac	217	274
MICROSOFT TITLES		
Microsoft TaxSaver Federal Deluxe	2,826	170
Microsoft TaxSaver	1,889	95
BLOCK FINANCIAL TITLES		
TaxCut State California edition	242	290
TaxCut State New York edition	122	149

*As of November 2000
Source: PC Data

© 2001 KPMG LLP, the U.S. member firm of KPMG International, a Swiss association.

You don't maintain the integrity of your systems to keep your computers up and running.

You do it to keep your business up and running.

www.us.kpmg.com

Managing information risk is critical to achieving your business objectives. And KPMG can help prevent your goals from being compromised. We do more than evaluate reliability, privacy and security. We approach each of these issues from a strategic perspective. So we can optimize the impact technology has on your company's revenue, image and value. Visit www.us.kpmg.com or call us at 1-800-867-6824 to learn more about how we integrate technology and strategy. We can help you keep your business, and the systems it depends on, running smoothly.

understanding @ KPMG℠

Output

MATT CUTLER: EMETRICS

CUSTOMER 'FOCUS' TELLS ALL

A site visitor's focus is his or her concentrated area of exploration at your Website. A user who exhibits focused behavior tends to look only at specific content on the site while ignoring all its other content.

For example, suppose a site's online catalog is composed of 15 pages. A focused visitor might look at only two or three of these pages, while a less-focused visitor might examine five or six pages and an unfocused visitor might look at eight or 10. Here is how to measure a site visitor's focus:

$$\text{Focus} = \frac{\text{Number of pages visited}}{\text{Total number of pages}}$$

Whether a wide or narrow focus is better for your site depends on the type of content and the desired user behavior. If a visitor sticks around a particular section, it is usually a good sign that the content is compelling—except a sticky checkout area at an ecommerce site could signal a cumbersome checkout process. And narrow focus is good at a customer-service area of a site, but perhaps not at an online auction area.

STICKINESS

FOCUS	Low	High
Wide	Users click through layers of a site, searching to locate the correct information.	This signifies enjoyable browsing or what we call 'a magnet area.'
Narrow	Users are likely not interested in the site area. Further investigation required.	Users are especially interested in a particular aspect of the site area.

MATT CUTLER (MATT@NETGEN.COM) IS CO-FOUNDER AND CHIEF EBUSINESS INTELLIGENCE OFFICER FOR NETGENESIS.

Graphic Details

Worth Their Weight in Porsches

Think Internet economy workers are overpaid? Consider the fact that in U.S. Internet economy firms, Internet workers produce roughly twice as much revenue as do non-Internet workers. And no, we're not just talking dot-commers. In fact, dot-com employees accounted for only 11.7 percent of the Internet economy workforce in the second quarter of last year.

Internet workers generate high revenues*...

Internet Economy Firms	Number of employees (millions)	Revenues generated (millions)	Revenues generated per employee
INTERNET-RELATED JOBS	3.088	$200,219	$64,827
NON-INTERNET-RELATED JOBS	21.551	$706,587	$32,786

** Q2 2000*
Source: Center for Research in Electronic Commerce, Graduate School of Business, University of Texas at Austin, 2001

...and garner top salaries.*

TITLE	STARTING SALARY RANGE
Database administrators	$72,500 to $105,750
Network administrators	$48,000 to $69,250
Software developers	$58,750 to $90,250
Software engineers	$62,750 to $92,000
Software programmers/analysts	$54,000 to $77,750
Security administrators	$60,500 to $84,250
Webmasters	$58,000 to $82,500

**Salaries do not include bonuses or other incentives.*
Source: RHI Consulting, 2001 IT Salary Guide

STAT SITES

RESEARCH ON THE NET

CountryWatch.com
www.countrywatch.com
This site offers geographical, political, economic, corporate, and environmental information on 191 countries.

WHAT THE SITE OFFERS Subscribers pay $299 for a year for comprehensive country reports. Nonsubscribers can receive individual nation profiles for $39.95 each.

BEST FEATURE Profiles include commentary along with the raw data.

Directorate of Intelligence
www.odci.gov/cia/publications/factbook/index.html
This division of the U.S. Central Intelligence Agency prepares intelligence reports for agencies of the U.S. government. These reports are accessible online to the public.

WHAT THE SITE OFFERS A voluminous fact book (64,500KB) containing 267 detailed country profiles. Topics include transnational issues, military, transportation, geography, population, government, economy, and communication.

BEST FEATURE Comprehensive country data.

World Bank Group
www.worldbank.org
Owned by more than 180 member countries, the World Bank Group is the world's largest source of assistance to developing nations.

WHAT THE SITE OFFERS A collection of the World Bank Group's own development indicators, both anecdotal and statistical, covering people, the environment, technology and infrastructure, the economy, and trade and finance.

BEST FEATURE Focus on developing countries.

NOTES
DIARY/IDEAS

SUBJECT I.P.O. the big day!

Congratulations to our clients who had IPOs in 2000.

@Road, Inc.
Aclara Biosciences Inc.
Advanced Power Technology, Inc.
AeroGen, Inc.
Alliance Fiber Optic Products, Inc.
Applied Molecular Evolution, Inc.
Apropos Technology, Inc.
Argonaut Technologies
Array Biopharma, Inc.
AvantGo, Inc.
Avenue A, Inc.
Centra Software, Inc.
Ciphergen Biosystems, Inc.
ClickSoftware, Inc.
Corillian Corp.
CoSine Communications, Inc.
CrossWorlds Software, Inc.
Cypress Communications, Inc.
Deltagen, Inc.
DigitalThink Inc.
DURECT Corporation
Dyax Corp.
Eprise Corporation
Esperion Therapeutics, Inc.
Evergreen Solar, Inc.
Evoke Communications, Inc.
Exelixis Inc.
Genomica Corporation
Handspring, Inc.
HealthGate Data Corp.
iBEAM Broadcasting Corp.
I-many, Inc.
inSilicon Corporation
InterMune Pharmaceuticals Inc.
IntraBiotics Pharmaceuticals, Inc.
Lightspan Partnership, Inc.
Mainspring Communications, Inc.
MatrixOne, Inc.
McData Corporation
Moldflow Corporation
Neoforma.com, Inc.
Network Engines, Inc.
Nogatech, Inc.
Nuance Communications, Inc.
Numerical Technologies, Inc.
OmniSky Corporation
Opus360 Corporation
OraPharma, Inc.
ORATEC Interventions, Inc.
Organic Inc.
Pixelworks, Inc.
Quantum Effect Devices, Inc.
Rosetta Inpharmatics, Inc.
Selectica, Inc.
Sequoia Software Corporation
Sonic Innovations Inc.
Sonus Networks, Inc.
Speechworks International, Inc.
Support.com, Inc.
T/R Systems, Inc.
Talarian Corporation
Triton Network Systems, Inc.
Vicinity Corporation
ViryaNet Ltd.
webMethods, Inc.
Websense Inc.
Witness Systems

Silicon Valley Bank

To join our list of IPOs, call 1-888-793-2695

The companies highlighted above represent some, but not all, of Silicon Valley Bank's current clients which completed initial public offerings during 2000.

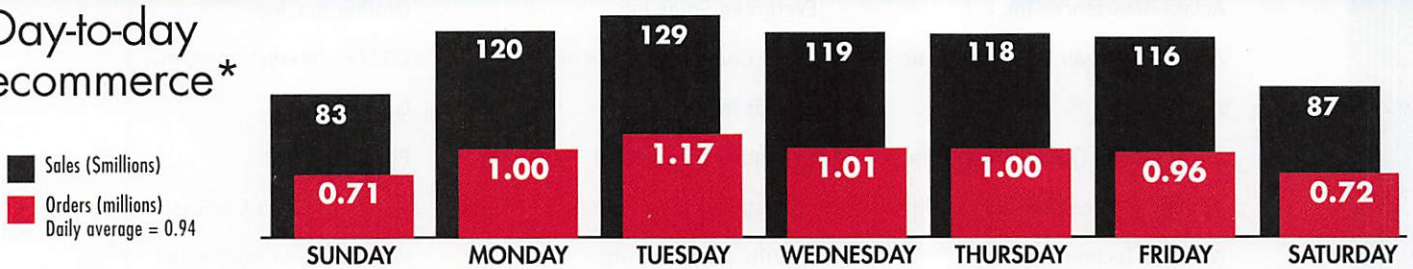
www.svb.com

SEP OCT NOV DEC EXP$ DATA

©2001 Silicon Valley Bank. Member FDIC - Member Federal Reserve Bank

Internet at a Glance

Day-to-day ecommerce*



*For week ending January 13, 2001

Source: BizRate.com

The number of U.S. adults with **Internet access** grew to **104 million** from 88 million during the **second half of 2000.**

—Source: Pew Internet and American Life Project

GOOD FIRST IMPRESSIONS*

INDUSTRY SEGMENT	IMPRESSIONS (millions)
Department stores	4,828
Portals/search engines	3,260
Online communities	1,221
Auction houses	974
General news	729
Full-service telecommunications	653
Software manufacturers	628
Investment services	567
Hardware and electronics manufacturers	500
B-to-B portals	496

*For two-week period ending January 14, 2001
Source: AdRelevance

MOST VISITORS*

URL	UNIQUE VISITORS (millions)
www.yahoo.com	10.5
www.msn.com	10.0
www.passport.com	5.2
www.hotmail.com	5.1
www.aol.com	4.9
www.netscape.com	3.0
www.iwon.com	2.4
www.excite.com	2.4
www.go.com	2.3
www.ebay.com	2.3

*For week ending January 14, 2001
Source: Media Metrix

WEEKLY ONLINE PURCHASES*

INDUSTRY SEGMENT	NUMBER OF PURCHASES (thousands)
Apparel	387
Computers and electronics	1,578
Consumer goods	456
Entertainment	1,867
Food and wine	387
Gifts and flowers	1,284
Home and garden	376
Toys and hobbies	233
Total retail	6,569

*Estimated unit purchases for week ending January 13, 2001
Source: BizRate.com

QUICK ECOMMERCE*

SITE	DOWNLOAD TIME (seconds)	FAILED CONNECTIONS
FedEx	0.66	0.2%
Yahoo!	0.74	1.0
AltaVista	1.02	1.0
Schwab	1.15	2.3
Lycos	1.20	1.5
Dun & Bradstreet	1.30	2.0
Cable & Wireless	1.41	0.3
Sun Microsystems	1.56	0.1
Sprint	1.56	0.3
Compaq	1.64	1.5

*Average performance for week ending January 19, 2001
Source: Keynote Systems

USER-FRIENDLY B-TO-C SITES*

COMPANY	URL	AVERAGE ACCESSIBILITY**
ClassMates Online	www.classmates.com	1.4
Intellicast.com	www.intellicast.com	1.7
American Airlines	www.americanairlines.com	1.9
General Motors	www.gmc.com	2.0
LookSmart	www.looksmart.com	2.0
Delta Air Lines	www.delta.com	2.1
Gap	www.gap.com	2.1
E*Trade Group	www.etrade.com	2.2
Fidelity Investments	www.fidelity.com	2.2
Southwest Airlines	www.southwest.com	2.2

USER-FRIENDLY B-TO-B SITES*

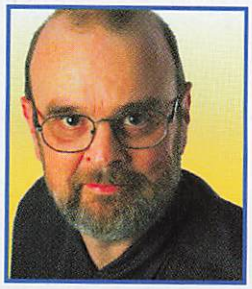
COMPANY	URL	AVERAGE ACCESSIBILITY**
Gannett	www.gannett.com	1.6
Capital One Financial	www.capitalone.com	1.7
Intuit	www.intuit.com	1.9
FedEx	www.fedex.com	2.0
Prodigy	www.prodigy.com	2.0
3Com	www.3com.com	2.3
Everyone.net	www.everyone.net	2.7
Symantec	www.symantec.com	2.7
IBM	www.ibm.com	2.8
McAfee.com	www.mcafee.com	2.8

*Data for the week ending January 25, 2001 **Minutes required to navigate to target pages, including scanning and loading.
Source: WebCriteria, based on Nielsen//NetRatings top 200 most-visited Websites

COMPILED BY **TESSA ROMITA** • NUMBERS@BUSINESS2.COM

ESCAPE

The more intuitive the computing process becomes, the more it merges with the Beast inside us.



The Monster Unleashed

JON CARROLL

"We think we know where the frontiers are. They are the far edges of faster, smaller, more powerful, more intuitive—that's what we want our computer-like objects to be. Sometimes the ideas are ahead of the marketplace—bye-bye, Newton; hello, Palm—but that does not make them wrong, merely ill-timed. The goals have not changed.

These goals are now beginning to run up against the limitations of the human brain. And not just my brain—it's easy to overload that—but the brains of actual smart people. Except for Net connectivity speed, what used to be called "baud rate personal computing devices" are just about as fast as we need them to be. I think; I process the thought; the device responds immediately. Until genetic engineering begins tweaking my neurons, I don't need much more speed.

Baud rate
The computing speeds that existed in the days when we all sat around pelting pterodactyls with rocks.

And I don't need anything much smaller. Indeed, people with stubby Irish fingers—I mention no names—sometimes wonder whether they should get their hands retrofitted. Any keyboard where your thumb can hit six keys at once is not ergonomically ideal.

As for power—personally, I wouldn't know what to do with a little Cray-in-a-box. Maybe if I had a SETI program running in my Palm, aliens could be contacting me by next Thursday. But that's essentially recreational. We ask ourselves: How many games of solitaire can we play at the same time?

Which leaves "more intuitive" as the grail. Input issues, interface issues, software issues. No one yet claims that any computing device is "natural" in any real sense; indeed, it can be argued that we have moved away from that goal since Apple Computer stopped being the industry leader. But now we have stuff such as pen-based computing, so that man-the-tool-using-animal is freed to use his crude stone awls and axes to think with, metaphorically speaking.

This makes me fretful. People have been trying to put personalities into computers forever—email emoticons are a pathetic attempt to put pretty yellow curtains in the big bland text room. Games such as Everquest are a way for users to create a machine-based personality, even as games such as Tomb Raider are commercial attempts to create a one-size-fits-most machine personality.

But suppose the process became even more intuitive. Suppose it became a hands-off operation, responding entirely to voice commands and taking dictation. (That's possible right now, but not in a handheld format.) Suppose the next step was taken, and thought itself became a transmitting device. ("Reading" the brain by analyzing brain waves is already an advanced medical discipline.) Then we would have the ultimate personal servant, the staple of a million science fiction stories, opening our garage doors and teaching us French while we sleep.

That is the logical Emerald City for this particular yellow brick road. But we have already glimpsed the monster in the mouth of the tunnel.

Email is faster than regular mail. It is more intuitive. It is more like conversation than it is like writing. It is informal and jargon-heavy. This is not an unmixed blessing. It is difficult to maintain standards in email even as it is difficult to maintain standards in your private speculations. The barrier between "creating" and "communicating" is dissolving. We are all playing jazz now; the riffs we create before our first cup of coffee can seem like formal compositions by the time they get to Bombay.

And we flame. Even though we are using a keyboard, staring at a screen, surrounded by reminders that we are not merely inside our id, we type the most amazing stuff, hostile and weird and unmediated by courtesy. It is, quite literally, the nature of the Beast inside us; we are all animals underneath our clothes.

And the more intuitive computing becomes, the more it merges with the Beast. We'll get real smart and real angry, and suddenly ecommerce will turn into a flesh-world war, like Chicago during Prohibition or Europe in 1914.

The old adage applies: Be careful what you wish for.

■ ■ ■

This is my last regular column in this space for *Business 2.0*. I started with the first issue of the magazine, and I have been writing monthly for nearly three years. It has been a splendid ride. My thanks to Editor in Chief James Daly for his faith in my work. Next time in this spot: The beginning of a serialization of Larry Ellison's hot new book, *Zen and the Art of Airplane Maintenance.*

OK, that last part is a lie. Y'all take care.■"

JON CARROLL (JRC@WELL.COM) IS A COLUMNIST FOR THE *SAN FRANCISCO CHRONICLE.*

ILLUSTRATION: CHARLES STUBBS

E3 ELECTRONIC ENTERTAINMENT EXPO

CONFERENCES MAY 16-18

EXPOSITION MAY 17-19

2001

LOS ANGELES·CALIFORNIA

WWW.E3EXPO.COM

MEET THE GREATEST MINDS BEHIND THE BIGGEST GAMES

The E3 2001 Workshop and Conference Program connects you with the talent behind the industry's most successful games. Just a few of this year's 30+ sessions include: Roadmap to Tomorrow's Games - Tomorrow's Gamers; Understanding the Broadband Consumer; Consoles Make the Jump Online; Games That Break the Rules; and Gaming Goes Wireless.

HOLD THE FUTURE OF INTERACTIVE ENTERTAINMENT IN YOUR HANDS. REGISTER FOR THE E3 CONFERENCE PROGRAM ONLINE @ WWW.E3EXPO.COM OR CALL 877.216.6263. REGISTER EARLY FOR DISCOUNTS.

E3 is a trade event. No one under 18 will be admitted (including infants). This policy is strictly enforced.

NOTE: Page numbers listed indicate the first page of the article in which the company appears.

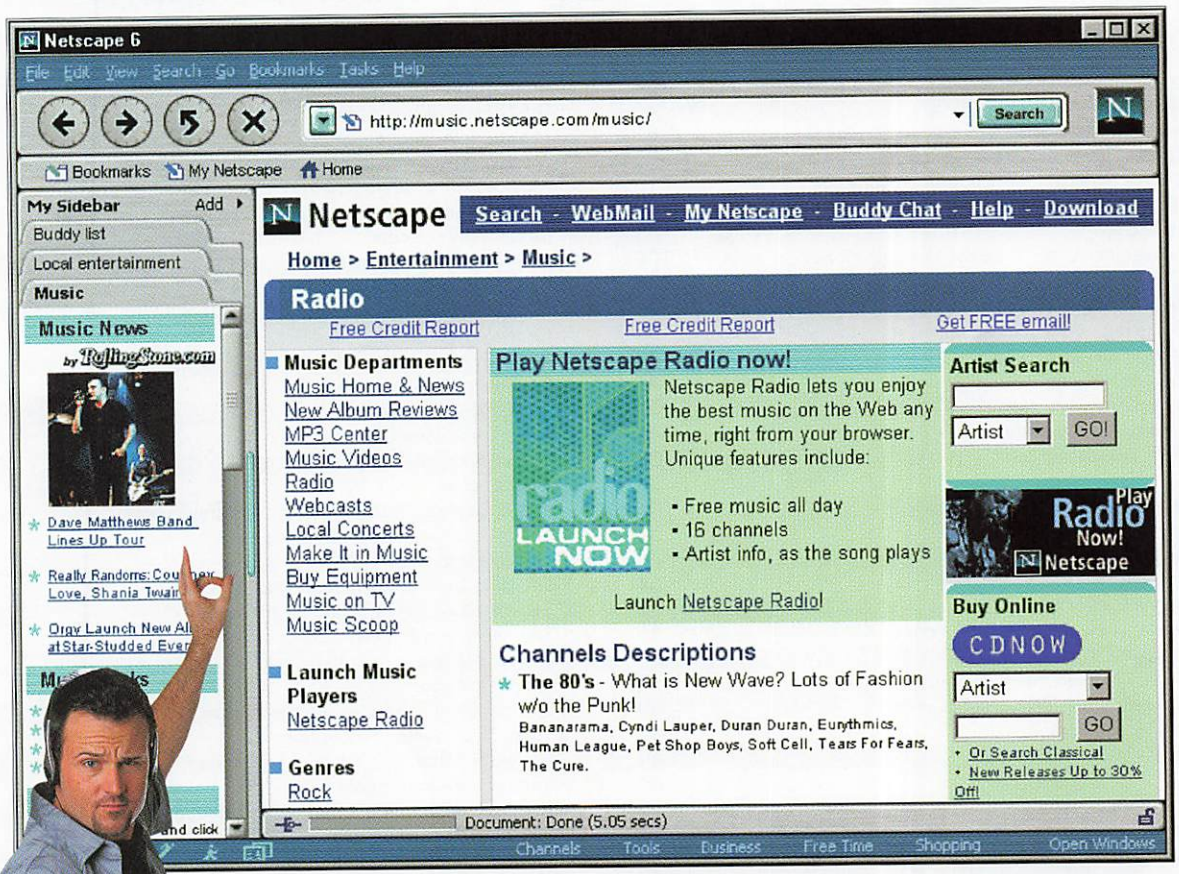
COMPANY INDEX

AllAdvantage.com	64
AT&T Wireless, www.attws.com	46
AvantGo, www.avantgo.com	81
Banana Republic, www.bananarepublic.com	80
Barton Protective Services, www.bartonsolutions.com	16
Bishop Partners, www.bishoppartners.com	42
Bolt, www.bolt.com	68
Brody Communications, www.brodycommunications.com	102
C.J. Driscoll & Associates, www.cjdriscoll.com	46
Canto Software, www.canto.com	54
Catalina Marketing, www.catmktg.com	64
Caterpillar, www.caterpillar.com	54
Cell-Loc, www.cell-loc.com	46
Christian & Timbers, www.ctnet.com	42
Cingular Wireless, www.cingular.com	46
Cisco Systems, www.cisco.com	29
Cobion, www.cobion.com	54
Compaq, www.compaq.com	106
Convera, www.convera.com	54
Converge, www.converge.com	38
Dash.com	64
DAT Services, www.dat.com	38
Digital Airways, www.digitalairways.com	81
eRugGallery.com	54
eVolution Global Partners, www.evopartners.com	18
Famous Footwear, www.famousfootwear.com	80
Firepad, www.firepad.com	81
Ford Motor, www.ford.com	60
Gator.com	64
General Motors, www.gm.com	80
GeoDiscovery, www.geodiscovery.com	86
Global Coal, www.globalcoal.com	34
Gofish.com, www.gofish.com	38
Gomez, www.gomez.com	24
Handspring, www.handspring.com	82
Heidrick & Struggles International, www.heidrick.com	42
HelloBrain, www.hellobrain.com	20
Hewlett-Packard, www.hp.com	29
Ideo, www.eyemodule.com	86
Infinity Softworks, www.infinitysoftworks.com	86
InnoGear, www.innogear.com	86
Interphase International, www.interphaseintl.com	16
IS/Complete, www.iscomplete.com	80
KangarooNet, www.kangaroonet.com	68
LandWare, www.landware.com	81
Logica, www.logica.com	29
Magma Group, www.magmagroup.com	68
Maytag, www.maytag.com	60
McAfee.com	81
NEC, www.nec.com	50
Network Plus, www.np1.com	56
NetZero, www.netzero.com	64
OmniSky, www.omnisky.com	86
Oracle, www.oracle.com	29
Palm, www.palm.com	74
PartMiner, www.partminer.com	38
PDQuick, www.pdquick.com	24
Pinkerton's, www.pinkertons.com	16
Pottery Barn, www.potterybarn.com	60
Register.com	21
Russell Reynolds Associates, www.russreyn.com	42
Santa Cruz Operation, www.sco.com	29
SAP, www.sap.com	80
Sausalito Cellars, www.sausalitocellars.com	104
ServiceMaster, www.servicemaster.com	80
SiRF Technology, www.sirf.com	46
SmartForce, www.smartforce.com	90
SnapNames.com	21
Spencer Stuart, www.spencerstuart.com	42
Sprint PCS, www.sprintpcs.com	46
Student Monitor, www.studentmonitor.com	68
Targus, www.targus.com	86
Teenage Research Unlimited, www.teenageresearch.com	68
Tucows, www.tucows.com	21
VarsityBooks.com	68
VeriSign, www.verisign.com	21
Verizon, www.verizon.com	46
Vindigo, www.vindigo.com	81
Visfinity, www.visfinity.com	54
Webvan Group, www.webvan.com	24
WeSync.com	81
William Blair Capital Partners, www.wmblair.com	24
Williams-Sonoma, www.williams-sonoma.com	60
Windows on the World, www.windowsontheworld.com	102
Wine.com	104
Wineshopper.com	104

ADVERTISER INDEX

3Com	39
Accenture	6-7, 9
Anthro Corporation	63
AT&T Wireless	99
Banana Republic	4
Brother International	73
Chrystal Software	33
Comdisco	69
Commerce One	44–45, 47
Commission Junction	22–23
Dell - New Business Development	Inside cover gatefold
Dell	12–13
Digex	93
DWL	28
E3 Expo	111
Edirect.com	65
eLink 2001	32
Engage	57
Enterworks	15
Ernst & Young	85
Evolution Series	67
Herman Miller	11
Johnnie Walker	41
KPMG	95
Land Rover	61
Access Manitoba	53
MATRAnet	70
Mercedes Benz	Back cover
Microsoft Project 2000	58–59
NaviSite	51
NetLedger.com	19
Netscape Communications	109
Nextcell's Pocket Spider	91
Nextel Communications	17
Novell	48
Panasonic - HDTV	37
Qwest Apptimum	2–3
Rules and Tools Conference	26, 100–101
Silicon Valley Bank	97
Top Choice Systems	87
Unisys	25, 27, 29, 31, 43
UPS	43
Verizon	Inside back cover
Webversa	35
Xerox	107

Personalize your Internet with Netscape®



Michael Cunningham is a software developer and a real music lover.

He'll find Netscape an ideal way to be more productive online because he can personalize the Internet for the way he works. With Netscape, Michael can keep all of his most important information at his fingertips for fast and easy access. He can stay in touch with coworkers through his buddy list and listen to Netscape Radio during the day for inspiration. He can also quickly find news and information to help him keep up with what's happening in his field. Other features like search, email and a personalized home page can help Michael streamline his work tasks (so he has more time for concerts). But Netscape is not just for software developers. Try Netscape today and see what it's like to experience the Internet your way.

Visit Netscape.com today. It's free.

© 2001 Netscape Communications. Netscape and the Netscape logo are registered trademarks of Netscape Communications. Other trademarks are properties of their respective owners.

Netscape

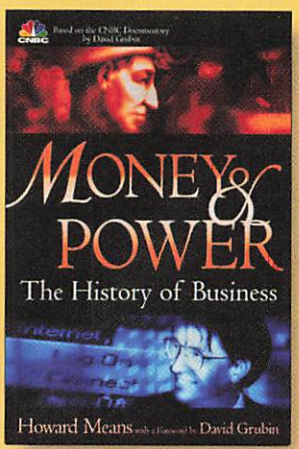
The power of the Internet made simple

Flower Power

In Holland, the financial center of the pre-industrial Western world, bankers once considered abolishing the gold standard. Fortunes brought in by Dutch sea traders and the sophistication of Dutch capital speculation raised confidence and the value of local goods. So much so, in fact, that bankers proposed backing the currency with the region's valuable and beloved tulips instead of bullion. Vaults brimmed with bulbs.

Howard Means' *Money and Power: The History of Business* ($27.95, John Wiley & Sons) offers refreshingly simple accounts of this and other intriguing tales, centering his work on some of history's most daring and successful entrepreneurs. Means begins with St. Godric, the English merchant who plied the northern seas at the turn of the first millennium, and ends with Bill Gates, who at the turn of the second millennium attempts to dominate cyberspace. Means also considers Cosimo de' Medici and the Florentine Renaissance, the giants J.P. Morgan, John D. Rockefeller, and Henry Ford during the eruption and consolidation of American industrial capitalism.

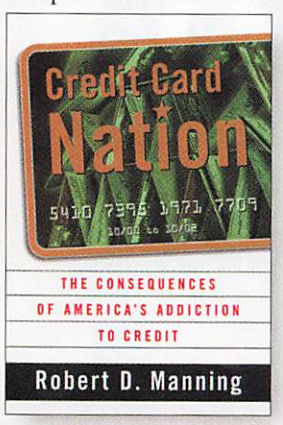
But Means is not content to provide a history lesson. He takes pains to demonstrate how the actions of these men, their ways of thinking, and the events of their times influence our lives today.



To Our Credit

Anyone with a relative who lived through the Great Depression knows that attitudes toward debt have changed over the years. Many old folks would rather listen to "gangsta" rap than make an interest payment on a credit card. The rest of us, however, some 158 million Americans, own more than 1.5 billion credit cards.

In *Credit Card Nation: The Consequences of America's Addiction to Credit* ($26, Perseus Books Group), Robert D. Manning examines America's transformation from a nation that once viewed debt as a "moral transgression" to one that accepts—if not embraces—it as "the lifeblood of the U.S. economy." Manning does not see this as a positive trend, and he spares no sector in his critique. He blames public tax policies and corporate misuse of federal tax laws.



Although Manning sometimes lapses into textbook prose, he lays out a compelling and comprehensive history of credit and consumption in the United States that conveys the danger of being an "indebted society."

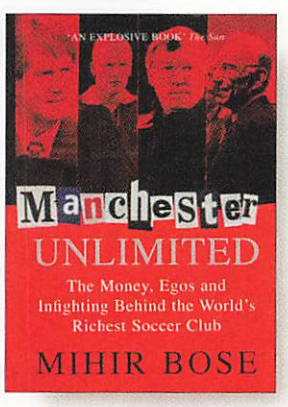
Unlimited Bias

Although it's difficult to imagine, the British are more obsessed with their version of football than Americans are with their homegrown variety. And while supporters of other English clubs will no doubt disagree, no soccer team has a more intense and devoted following than Manchester United.

Obsession is a fascinating thing, and the business of tapping into an obsession for profit can be even more riveting. In *Manchester Unlimited* ($27.95, Texere), author Mihir Bose attempts to chart Manchester United's rising fortunes between 1989, when the team drew a $29 million purchase bid, to today, when its market value is estimated at more than $870 million. In the process, Manchester United became one of the best soccer teams in the world.

Unfortunately, Bose is a "homer," that is, he's too big a fan to offer credible analysis. His biased discussion of the team and its fans makes it difficult to believe his assessment of Manchester's business practices.

There's a great tale to be told about the big business of sport in Europe, but Bose doesn't come close to delivering it.



CONTRIBUTORS: IPAQ: ERIC REYES; FLOWER: JULIE BLACKLIDGE; CREDIT, BIAS: GORDON YOUNG

Events and Shows for April 2001

Vietnam Computerworld Expo

When: April 1
Where: Ho Chi Minh City, Vietnam
Why go, really: In an effort to come up to speed, this expo introduces hardware, software, networking, and peripheral products to government officials, distributors, and corporate buyers.
http://38.170.216.57/www/events.nsf/EventsByRegionForm?OpenForm&region=AP

Business 2.0: Rules and Tools Conference

When: April 2 and 3
Where: New York
Why go, really: Here's a shameless plug: Powwow explores how business models need to change to move beyond the New Economy. Speakers and workshops cover marketing, new technology, branding, customer service, and management solutions.
www.business2.com/rules/

Comdex Chicago 2001

When: April 2–5
Where: Chicago
Why go, really: Look at the big picture. At one event compare and contrast news about IT business-to-business solutions, ecommerce, wireless technologies, information appliances and, well, frankly, everything the Internet has wrought.
www.key3media.com/comdex/chicago2001

Microsoft Office Deployment and Development, 2001

When: April 8–10
Where: Orlando, Fla.
Why go, really: Microsoft Office experts tell all, offering in-depth training with Office 10, comments on the value of .NET technologies, tips on integrating Office and Web solutions, and whatever else the lords of the empire deem worthy.
www.msofficeconference.com

eBusiness Integration Conference Series

When: April 16–18
Where: Chicago
Why go, really: Join analysts and authors to examine how IT best meets ebusiness. Mingle with content managers.
www.brainstorm-group.com

XEROX INKJET PRINTERS.

REPLACE ONE COLOR WITHOUT REPLACING THEM ALL.

$99*

*suggested retail price
DocuPrint M750

THE DOCUMENT COMPANY

XEROX

You told us that wasting ink was frustrating. So we engineered the Xerox ***InkLogic™*** color system with four separate ink tanks. Our intelligent ink tank system senses when ink is low and tells you. That means you use every drop of ink and replace only what you use. To see this economical printer, visit a store near you. **Xerox. Just a smarter breed of inkjet printer.**

www.xerox.com/inkjet

amazon.com. BrandsMart U.S.A. J&R MUSIC WORLD COMPUTER WORLD MICRO CENTER Office DEPOT OfficeMax Outpost.com STAPLES

XEROX® The Document Company® DocuPrint® InkLogic™, A Smarter Breed of Inkjet Printer, the Blue Dog icon and M750 are trademarks of XEROX CORPORATION.
Painting ©2000 George Rodrigue. Used with permission. ©2001 XEROX CORPORATION. All rights reserved. Simulated output.

DEMO

Goods

BUY CONSIDER PASS

Webfoot Wireless

Networking devices don't usually look this good. They're switching centers, after all, whirring plastic and metal boxes where computers connect to one another and to the Internet—the place

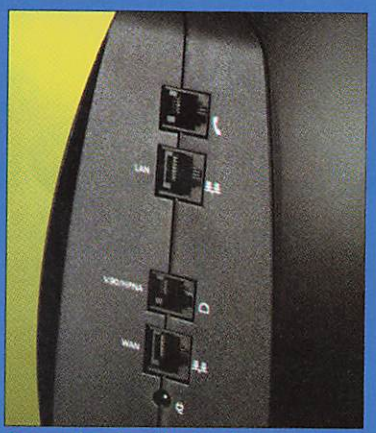
www.compaq.com

where phone and fax and cable lines all meet in a tangle under the desk. But the Compaq iPaq Connection Point CP-1 is a sleek piece of machinery. So sleek in fact that you'll want to set it up in plain view.

The iPaq wirelessly links home or office PCs (not Macs). It works with broadband, dial-up, or wireless Net connections, and it's compatible with most popular networking software and hardware, including HomeRF Working Group wireless, Home Phoneline Networking Alliance 2.0, and 10/100 Base-T Ethernet.

The iPaq is compact and cheap. It measures 8 inches from its base, weighs 3 pounds, and costs $499. And it comes with WatchGuard Technologies' LiveSecurity System, which provides firewall upgrades and automatic email notification of any security breach.

The catch: You won't be able to access the Net using iPaq if you're one of the 24 million people who use America Online or CompuServe—a significant limit to serious networking.



iPaq provides a firewall and wireless Net access.

CONNECT HERE
A compact network gateway that wirelessly links home or office computers.

PHOTOS: AARON LAUER

"I can order a shotgun or a pistol from Illinois online, but I can't order a case of wine. It's very frustrating."

are more Internet-friendly. They repackage the wine and then ship it to her. "I'm really fit to be tied with this," Miskey-Gilp complains. "FedEx and UPS are the only people benefiting from it."

Molly Parsley, a marketing and public relations manager for San Francisco–based Lot21 Interactive, uses a similar rerouting tactic. When she first set out to ship wine to her parents in Kentucky, she faced some of the toughest shipping laws in the country. Sellers to her home state risk a felony indictment after a first warning. So she had the order shipped to her Bay Area home, re-wrapped it, then mailed it to her parents via regular snail mail. "I think it's more of a 'don't ask, don't tell' policy at the post office," she says.

Randy Buckner, an osteopath in Olympia, Wash., uses WineSearcher.com to look for companies located in states with reciprocity agreements. Failing that, he'll re-pack wine in plain boxes for shipment to his mother in restrictive Oklahoma. "I can order a shotgun or a pistol from Illinois online, but I can't order a case of wine," he notes. "It's very frustrating."

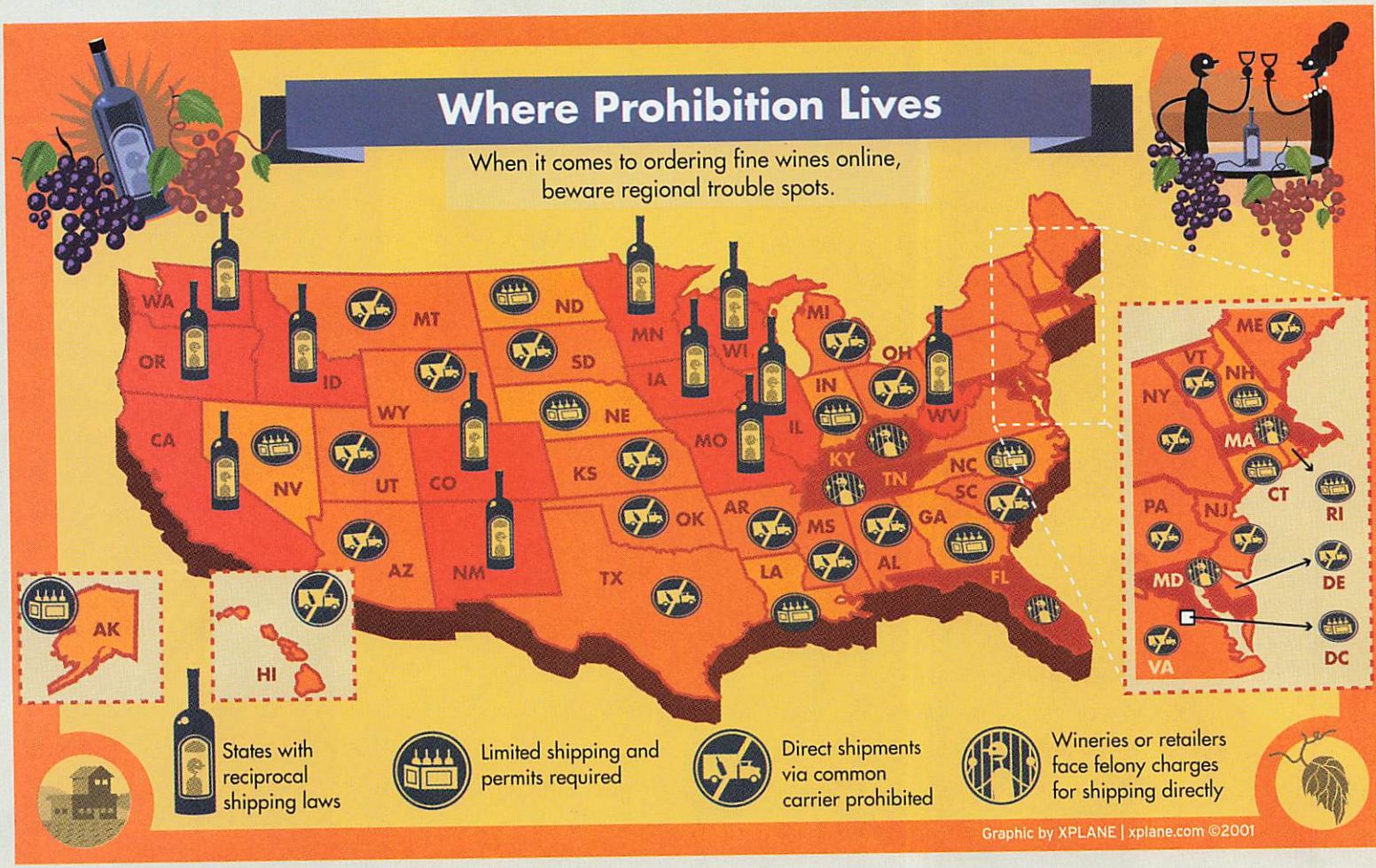
Online retailers say they do their best to accommodate buyers who try to obey the law. Some may ship orders, but they would lose their business permits if they were ever caught trucking orders across state lines.

Peter Sisson, founder of Wineshopper.com, which was acquired by Wine.com, says his company has negotiated legal agreements with authorities in 40 states to permit company deliveries. Sausalito Cellars says it works with distributors who legally can receive shipments at locations close to its online customers. But then it's up to the customer to retrieve the order.

According to Brad Earman, a special agent for the U.S. Bureau of Alcohol, Tobacco, and Firearms, "most sellers on the Internet are aware of the state laws and make every effort to abide by them."

As for individual wine shoppers, that may be a different story.■

WILLIAM HOFFMAN (WHOFFMAN@EROLS.COM) IS A FREELANCE WRITER BASED IN FAIRFAX, VA.



teller-machine equipment for Diebold, of North Canton, Ohio. Knowledge of wine "adds a bit more complexity and depth to your character, and to the [business] relationship."

Wine is becoming such a must-have "competency" in the business world that it's being taught in at least one of the country's most prestigious business schools: the Haas School of Business at the University of California at Berkeley. A one-credit course there is billed as an overview of the wine industry, but it includes plenty of actual wine tasting. Charlie Dawson, 28, an alumnus and former organizer of the class, says students want wine pointers to aid them in job-hunting and eventual career advancement. "You never know when you're going to be handed the wine list and asked to order something."

Dawson, now a senior associate at Prophet Brand Strategy, a San Francisco consulting firm, says he found himself in that situation a year ago during an interview for an internship. He says he ordered a Syrah and pointed out that the flavorful red was becoming more popular. He got the job.

Of course, oenology is not just for career climbers. Going to a Wine Brats event "has caught on as a singles event rather than going to bars," says Taylor Eason, head of the group's Tampa, Fla.–area chapter. She says she worries that Wine Brats' increasing popularity as a singles scene could dissuade married folks from joining. But Zraly of Windows on the World says he can't complain about the blurring lines between business and romantic pursuits: He married one of his students.

Whatever your intentions, bone up on your vintages, stock your wine cellar, and you just might get that fat raise. After all, who ever heard of a poor wine snob?■

JESSICA M. SCULLY (JJESSGIRL@EMAIL.MSN.COM) IS A FREELANCE WRITER IN SAN FRANCISCO.

Moving Wine Across State Lines

Buyers and sellers use the Web to learn the nation's varying laws. **BY WILLIAM HOFFMAN**

When it comes to ordering fine wines online, it pays to know the potential trouble spots. For example, "It's easier to ship nuclear waste material to a developing country than it is to ship wine to Maryland," says Mark Anderson, president of Sausalito Cellars, a California wine-storage facility that doubles as a weigh station for customers navigating the Byzantine alcohol regulations of the 50 states.

www.sausalitocellars.com

After Prohibition was lifted in 1933, each state was empowered to set its own limits on the importation and transportation of alcoholic beverages, an arrangement that also prevented state prosecutors from pursuing illegal sellers in other states. States and the alcohol industry subsequently cobbled together a licensed three-tier system of manufacturers, wholesaler-distributors, and retailers. Small wineries complained that they were disadvantaged by the system because they could not license deliveries to as many states as big distributors.

The Internet opened a cheap and easy distribution alternative for smaller producers. But states and established three-tier distributors fought back, persuading Congress and the Clinton administration last year to enact the 21st Amendment Enforcement Act, which lets states use federal courts to prosecute illegal suppliers in other states that previously were out of jurisdictional reach. By targeting suppliers rather than consumers, the law is likely to make it more challenging to secure alcohol via the Web. "With the advent of the Internet, this is all coming to a head," says Vic Motto, a wine business consultant at Motto Kryla & Fisher in St. Helena, Calif.

Working the system

Today, 12 states have reciprocal agreements setting limits on the type, quantity, and frequency of alcoholic beverage shipments that pass between them, but 23 additional states prohibit virtually all shipments. "If you proposed a system of similar barriers for any other industry, the Federal Trade Commission would come down on you under the antitrust laws," says Motto.

Antitrust laws
The Federal Trade Commission's Bureau of Competition enforces antitrust laws in cooperation with the Justice Department's antitrust division.

Wine lovers and retailers alike have concocted creative ways to circumvent if not break labyrinthine state laws. Take the case of Katalina Miskey-Gilp, a Web developer in Lusby, Md., who gets by with a little help. She has wine orders shipped to friends and family members located in states that

WINNING THE ONLINE WINE GAME

- **Don't order on Thursdays or Fridays.** A weekend delay risks spoiling your purchase.
- **Be alert to the ol' bait-and-switch.** Getting a '95 Bordeaux instead of a '94 is like ordering a Porsche and receiving a Toyota.
- **Research shipping laws before ordering from out of state.** (Go to Winelaw.org for all the rules.)

study of wine—has become a must in the business world, just as a good golf game once was—at least for men hoping to join the old boys network. In addition, wine snobbery is considered more gender-neutral. "It used to be, the three hot things on global Wall Street were wine, golf, and cigars," says Kevin Zraly, wine director for Windows on the World, the skyscraping restaurant inside New York's World Trade Center. "Cigars are out, golf has leveled off. The big survivor of those three is absolutely, positively, wine."

Why study wine?

Wine-class students gain knowledge of wine values, learn to properly use arcane terms such as *umami,* and receive invaluable insider information. For example, though Cabernets and Chardonnays are among the most popular wines ordered in restaurants, wine experts regard them as poor choices to pair with food, says Nina Cohen, founder and president of Drink Great Wine, which offers classes in San Francisco. Lesser-known wines, such as Sauvignon Blanc, Riesling, and Pinot Noir, are considered better bets, she says.

www.drinkgreatwine.com

Another lesson taught in wine classes: Top-notch wine does not have to be pricey. Several of Cohen's classes focus on tasty but less-expensive wines from less-well regarded regions. New Zealand, for example, produces excellent wines that sell for $9 to $14 per bottle. At Rebecca Chapa's wine classes, launched in January in San Francisco, students learn more than enough to hold their own at elite gatherings. Saying that a wine "tastes like strawberries" doesn't sound like cogent analysis to most wine snobs. Wines have varying degrees of sweetness, acidity, and tannin. A tart wine doesn't "taste like lemons," Chapa says; instead, it is "high-acid."

www.winebytheclass.com

In college, "skunked" was the only word needed to describe beer gone bad. But as Chapa teaches her students, describing spoiled wine is much more complex. A wine is "corked" when a specific type of bacteria on the cork has seeped into the wine. "Oxidized" wine has been contaminated by too much air and is often brownish-tinged. Wines that smell like a burned-out match contain too much sulfur dioxide.

Classes conducted by Brody Communications, operator of a corporate finishing school in Jenkintown, Pa., impart the etiquette of ordering wine. Students learn the secrets behind the tasting, nodding, and cork-smelling ritual that wine aficionados perform in restaurants. School founder Marjorie Brody describes her class as an etiquette primer. "If you're going to go play golf, you have to know the rules," she says. "It's the same thing with wine."

www.brodycommunications.com

Schmooze factor

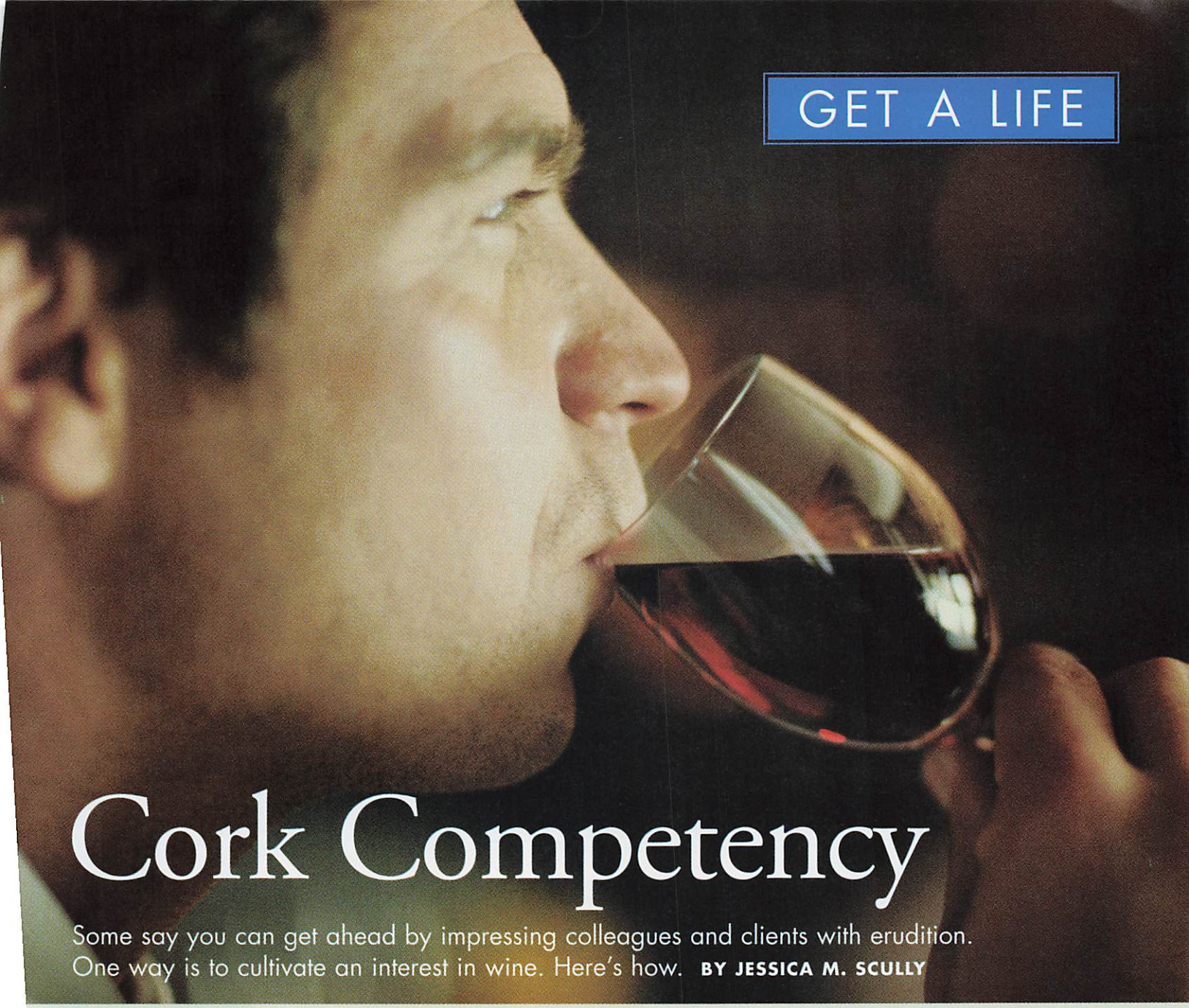
Just as a good golf game has helped many a career, wine savvy can provide an edge over business rivals, some experts say. Brian Atwood, 36, has been a wine enthusiast for years. The regional technical consultant for Resonate, a Sunnyvale, Calif., Internet software company, has taken classes from Cohen for more than a year. He says he applied what he learned in class about Rieslings at a business lunch with executives from client Macromedia. Although many pseudo-connoisseurs dismiss Rieslings as overly sweet, Atwood knew that the Kabinett style of Riesling is light, dry, and food-friendly. After lunch, he closed the deal.

Young professionals are flocking to wine classes like frat boys to a kegger.

The ability to navigate a wine list with ease demonstrates that a young professional's sphere of appreciation and understanding spans beyond Extensible Markup Language and the National Football League. A genuine interest in wine and an itch to impress others motivated Troy Smith, 31, of San Francisco to pursue oenology. "You've got a 25-year-old kid who can talk circles around bits and bytes, but that's only one level," says Smith, who sells automated-

SNIFF, SIP, AND SPIT: Wine classes demystify esoteric rituals.

PHOTO: GAIL MOONEY/CORBIS



Cork Competency

Some say you can get ahead by impressing colleagues and clients with erudition. One way is to cultivate an interest in wine. Here's how. **BY JESSICA M. SCULLY**

A crowd of chic, clean-cut adults, most younger than 35, gathers eagerly around tables at The Wine Steward, a vintner in Pleasanton, Calif., 40 miles east of San Francisco. At each place setting are four plastic cups, each half full of a different kind of wine. Between the wine cups are smaller cups containing vinegar, lemon juice, and salt. In this lesson, the wine enthusiasts will learn an obscure fact: that wine and *umami*-tasting foods don't mix.

Umami
This Japanese term means "deliciousness." In scientific circles it describes a meaty or rich taste in food. Some say an umami taste makes wine seem less fruity and more astringent, and can be neutralized by making the food saltier and more tart.

Leaders of the event, run by a group called Wine Brats, explain how nearly any food can be augmented to complement any wine, simply by adding salt or sour flavorings to the meal. Erica Hobby, a 23-year-old in knee-high boots, chats with friends while waiting for the tasting to begin. "I started getting interested in wine after my beer-guzzling days were over," says Hobby, a benefits analyst for Network Associates, a maker of network security and management software in Santa Clara, Calif. She says her new wine knowledge helps her gain ground in her career, especially when dining with business partners. "In most situations, it's better to order a glass of wine than a Coors Light," she says.

Young professionals are flocking to wine classes like frat boys to a kegger. Wine Brats was founded to introduce twenty- and thirty-somethings to the joys of the vine by taking the stuffiness out of wine connoisseurship. The organization has more than 30,000 members nationwide, and more than 80 percent are young professionals, says Executive Director Joel Quigley.

www.winebrats.org

Why are the young and swank queuing up to discern the difference between Sangiovese and Barbera? Because oenology—the

PHOTO: VCG/FPG INTERNATIONAL

PROVEN TRUTHS OF TODAY'S SUCCESSFUL COMPANIES

Profits matter. Always have. Always will. Successful companies know it—from large traditional ones to startups tapping into emerging markets. Learn their rules and tools for how to turn your Net initiatives into Net profits. **Space is limited. Register today.**

BUSINESS 2.0
RULES & TOOLS CONFERENCE
APRIL 2–3 NEW YORK CITY

For conference & registration information, call (888) 454.6593 or go to www.business2.com/rules

BUSINESS2.0

HOW TO TURN NET INITIATIVES INTO NET PROFITS

Scheduled Speakers Include:

Scott Cook
Chairman, Executive Committee, INTUIT

John Hagel
Author, *NET GAIN* and *NET WORTH*

Catherine E. Buggeln
President, BOO.COM

Patricia Seybold
President, THE SEYBOLD GROUP

Mitchel Resnick
Associate Professor, MIT MEDIA LAB

Mark Pesce
Co-creator of VRML

Ravi Kalakota
CEO, E-BUSINESS STRATEGIES

Steve Mott
CEO, BETTERBUYDESIGN.COM

Phil Terry
CEO, CREATIVE GOOD

Harlan Kleiman
Managing Director, SHORELINE PACIFIC

MANAGEMENT CRISIS

Roberta hears about
client crisis on way to
meeting in Tucson.
She goes back to office.
She misses her flight.
She misses her meeting.

CRISIS MANAGEMENT

Roberta hears about
client crisis on way to
meeting in Tucson.
She wirelessly accesses
crucial information from
company intranet.
Then she rallies her team
via e-mail.
She makes her flight.
Problem is solved by takeoff.

at&t wireless data service

Get time-sensitive information anywhere AT&T Wireless Data Service is available. Crank through urgent e-mails, manage schedule changes, access contact information and view the latest Web content–all from your PDA. It's fast, it's secure and it helps increase productivity. Because you're never far from the facts you need to help a client. And your bottom line, as well.

YOUR WORLD. CLOSE AT HAND. AT&T Wireless

att.com/wireless/dataservice **888 DATA-ATT ext. 102**

Important Information AT&T Wireless Data Service is available in over 3,000 cities across the United States. Detailed local coverage maps are available at att.com/wireless/dataservice. AT&T Wireless Data Service is available over the AT&T wireless data network and in markets where we have intercarrier agreements. Service outside the AT&T Wireless Services area is provided by other wireless carriers. Coverage may vary due to customer equipment and other factors. Due to coverage limitations, information may not be accessible at all times. Certain service applications may require purchase of an associated service, additional software or network connections. Additional terms and conditions apply. ©2001 AT&T Wireless Services, Inc. All rights reserved.

ARRIVE SAFELY

RULE THE WORLD FROM YOUR CUBICLE

WITH ONLINE DSL ✓ CALLER ID WITH NAME ✓ VOICE MAIL ✓

We put together the world's most powerful technologies in ways that help you do whatever you want, whenever you want. Visit verizon.com.

verizon

How to get life done.

ILINE DSL • LONG DISTANCE • WIRELESS SERVICES • LOCAL CALLING PLANS • DATA SERVICES • WEB HOSTING • CENTREX • DIRECTORY SERVICES
ALLING SERVICE PACKAGES • VOICE MAIL • MOBILE WEB • NETWORK SERVICES • WORK AT HOME SOLUTIONS • CALLER ID • NATIONAL 411

M-Class on duty.

For your security, the M-Class comes with an Electronic Stability Program (ESP) and traction control, six air bags,* advanced crumple zones and Tele Aid.** And was named a "Best Pick" by the Insurance Institute for Highway Safety.‡ For more info, call 1-800-FOR-MERCEDES, or visit **MBUSA.com. Starting at $35,800.† The M-Class**

Mercedes-Benz

MSRP for a 2001 ML320 at $35,800 excludes $645 transportation charge, all taxes, title/documentary fees, registration, tags, dealer prep charges, insurance, optional equipment, certificate of compliance or noncompliance fees, and finance charg Prices may vary by dealer. Available at authorized Mercedes-Benz Light Truck Centers.*WARNING: THE FORCES OF A DEPLOYING AIR BAG CAN CAUSE SERIOUS OR FATAL INJURY TO A CHILD UNDER AGE 13. THE SAFEST SEATING POSITION FOR YO CHILD IS IN THE REAR SEAT, BELTED INTO AN APPROPRIATE, PROPERLY INSTALLED CHILD SEAT, OR CORRECTLY WEARING A SEAT BELT IF TOO LARGE FOR A CHILD SEAT. A CHILD UNDER 13 SHOULD NOT USE THE FRONT SEAT UNLESS THE CHILD BELTED INTO AN APPROPRIATE, PROPERLY INSTALLED BABYSMART™-COMPATIBLE CHILD SEAT. A CHILD UNDER 13 WHO IS TOO LARGE FOR A CHILD SEAT SHOULD NOT USE THE FRONT SEAT. SEE OWNER'S MANUAL FOR ADDITIONAL WARNINGS A INFORMATION ON AIR BAGS, SEAT BELTS AND CHILD SEATS. **Tele Aid requires consumer subscription for monitoring service, connection charge, and airtime. Available only in cellular and Global Positioning Service areas. First year's monitoring, mont access fees, and 30 minutes of airtime included at no cost with subscription. See dealer for details. ‡Based on 40 mph frontal offset crash test results.

©2001 Mercedes-Benz USA, LLC. A DaimlerChrysler Compa